The sinclair user Book of Games and Programs for the SPECTRUM

The 'Sinclair User' Book of
Games and Programs for the Spectrum

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Contents

Foreword
The Games and Programs
Jannis the Menace 1
Siege 4
Escape from Time 6
Plons 14
Brick a Brack 17
Wimbledon 20
Hard Lines 23
Apple Thief 27
Poker 30
Alpha Attack 34
Personal Finance 36
Depth Charge 39
Petrol Consumption 42
Logo 44
Grumphers 46
Hit Star 48
Map Work 51
Counting 54
Washing Line 57
Move It 61
Shoot Out 64
Monsters 69
Pathway 72
Fryolites 75
Olympia 78
Specvaders 80
Labyrinth 84
Sequencer 89
Flowchart 92
Lissajous 94
Light Cycles 96
Hoop-la 98
Noughts and Crosses 100
Touch Type 104
Super Draw 107
Overload 110
Parachute Drop 113
Protector 116
Driver 119
Periodic Table 122
Grand Prix 126
Kami 129
Tarantula 132
Beetle Run 136
Rebound 138
Radar Grid 141
3D Cube 144
Deer Hunt 146
Banana Leap 149
Lethal Landscape 152
Good for the Roses 154
Cricket 157
Simon Says 162
Beat the Barrage 164
Rollover 166
Save Romeo 168
Bricky 170
Gold 173
Index Printer 176
Moon Shot 179

Foreword

Almost two years ago when 'Sinclair User' was launched it was decided that a major section of the magazine would be devoted to program listings and be called Program Printout. At that time listings for the ZX 80 and ZX 81 only were given as the Spectrum had not yet been launched.

As sales of the Spectrum grew we began to publish programs for the new colour machine in increasing numbers. We have now printed a great many different types using the capabilities of the Spectrum to the full and have been able to choose a selection of the best to be included in this Penguin collection.

Games are the most popular programs and that is reflected here. They cover a wide variety including ingenious versions of arcade favourites and complicated interactive adventures. This is not the limit of this book however. There are other programs which can help with education and many readers of 'Sinclair User' use the listings to help them to learn how to program in Basic.

When it was decided to include Program Printout in the magazine the main reason was the shortage of commercial software on cassette and the listings were an immediate success with our growing readership. Despite the growth and sophistication of the professionally-produced programs the listings have continued to be a popular feature. Over the months as the magazine has grown in size we have increased the number of pages of listings so that we can increase the number of programs and their complexity. Now 'Sinclair User's' regular readership of more than 80,000 can enjoy 16 pages of listings, twice the size of the original section.

Readers of 'Sinclair User' have long known that typing in listings like these are a cheap and easy way of getting enjoyment from their Spectrums and also an easy way to learn about programming. I hope that you get as much enjoyment from this collection as our readers did when they were first published.

Nigel Clark
Managing Editor
'Sinclair User'

Keying-in Instructions

Graphics
Instructions for graphics characters are printed in lower-case letters in our listings. They are enclosed by brackets and separated by colons to distinguish them and these brackets and colons should not be entered.

Inverse characters are represented by the letter 'i' and graphics characters by 'g'. Thus an inverse W would be represented by 'iw', a graphics W by 'gw' and an inverse graphics W by 'igw'.

Spaces are represented by 'sp' and inverse spaces by 'isp'. Whenever any character is to be used more than once, the number of times it is to be used appears before it, together with a multiplication sign. Thus '6*isp' means six inverse spaces and '(g4 : 4*i4 : g3)' would be entered as a graphic four, followed by an inverse four repeated four times, followed by a graphics three.

Letters to be entered in graphics mode are underlined.

Inverse characters may be obtained by changing to inverse video and typing the appropriate letters. Graphics characters may be obtained by changing to graphics mode and then pressing the appropriate character. User-defined graphics will appear as normal letters until the program has been RUN. 'Inverse graphic' applies only to the mosaic graphic shapes which appear on the numbered keys. This can be obtained by entering inverse mode, then graphics mode, and then typing the appropriate character.

Model Three Spectrum

Certain marked programs are intended for use on mark one or mark two Spectrums. Owners of mark three Spectrums should check these programs for IN statements. IN statements are followed by a five digit number and then by the numbers 255, 254 or 253. In all cases 255 should be changed to 191, 254 to 190 and 253 to 189.

Jannis the Menace

Knock the cans off the wall before granny arrives with her Demon Wacker Slipper. When you have cleared the wall of cans you have a chance to knock off the policeman's helmet before more cans appear. But watch out for that slipper! (16K Spectrum)

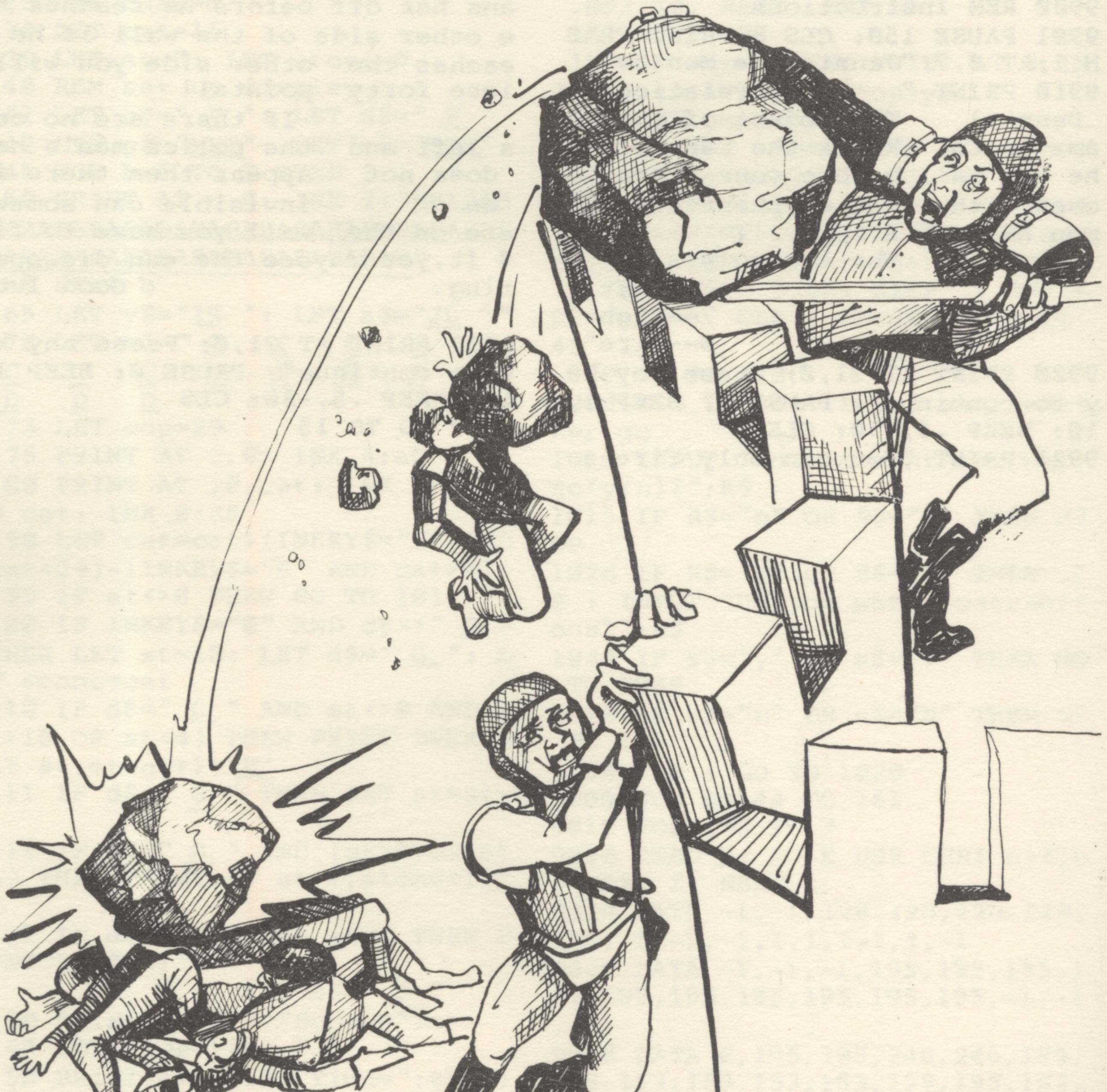
```
  5 PRINT AT 10,7; INK 3; PAPER
 6; FLASH 1; BRIGHT 1;"Stop the
tape!!"
  10 GO TO 9000: REM Graphics an
d Instructions
  15 REM Set up variables
  20 LET sc=0: LET time=500
  25 LET cans=8
  30 LET cat=15
  39 LET st=0: LET stone=0
  40 REM set up display
  41 LET c$=" E ": LET d$=" F "
  42 LET g$="MNO": LET h$="PQR"
  45 FOR b=5 TO 9 STEP 2
  50 PRINT AT b,0; INK 2;"ABABAB
ABABABABABABABABABABABABABABABAB
ABABABABABABABABABABABABAB"
  60 NEXT b
  65 LET y$="IK ": LET z$="JL "
  70 LET a$=" C   C   C   C   C
C   C   C   D   D   D   D   D
D   D   D  "
  73 LET cop=29
  75 PRINT AT 3,0; INK 4;a$
  80 PRINT AT 20,cat; INK 0;c$;T
AB cat; INK 0;d$
  90 LET cat=cat+(INKEY$="7" AND
 cat<29)-(INKEY$="6" AND cat>0)
  99 IF st<>0 THEN GO TO 101
 100 IF INKEY$="0" AND d$<>" G "
 THEN LET st=18: LET d$=" G ": L
ET stone=cat
 110 IF d$=" G " AND st<>0 AND (
st>10 OR st<4) THEN PRINT OVER 1
;AT st,stone+1;"H"
 111 IF d$=" G " THEN LET st=st-
1
 115 IF d$=" G " AND (st>9 OR st
<4) THEN PRINT AT st+1,stone+1;"
 "
 120 IF d$=" G " AND st=0 THEN P
RINT AT 0,0;"

             ": LET d$=" F "
 130 PRINT AT 1,0;"Score=";sc
 140 LET time=time-1
 150 PRINT AT 1,20;"Time=";time;
" "
 156 IF time=0 THEN BEEP .1,10:
FOR n=27 TO cat STEP -1: PRINT A
T 20,n;g$;" ";AT 21,n;h$;" ": BE
EP .1,50: BEEP .2,-50: BEEP .3,0
: NEXT n: PRINT AT 21,0;"Ow!!!!!
!!!!!!!!!": GO TO 1000
 158 IF cans=0 THEN GO TO 190
 160 IF st=4 AND a$(stone+34)="D
" THEN LET sc=sc+10: LET cans=ca
ns-1: LET a$(stone+34)=" ": BEEP
 .003,40: BEEP .003,59
 170 GO TO 80
 190 IF cop>0 THEN PRINT AT 4,IN
T cop;z$;AT 3,INT cop;y$
 200 LET cop=cop-.5
 210 IF INT cop=0 THEN LET sc=sc
-40: LET cans=8: GO TO 70
 220 IF st=4 AND (stone=INT cop
OR stone=INT cop+1) THEN LET sc=
sc+100: LET time=time+150: BEEP
.1,30: BEEP .7,40: BEEP .5,50: L
ET cans=8: CLS : PAUSE 5: GO TO
45
 300 GO TO 170
1000 REM To see if you want anot
her go
1010 INPUT "Do you want another
go(y/n)?";R$
1015 IF R$="n" OR R$="N" THEN ST
OP
1020 IF R$="y" OR R$="Y" THEN CL
S : INPUT "Do you want instructi
ons?";s$
1030 IF s$="y" OR s$="Y" THEN GO
 TO 9900
1040 IF s$="n" OR s$="N" THEN GO
 TO 15
1050 CLS : GO TO 1020
9000 FOR n=144 TO 161
9010 FOR f=0 TO 7
9020 READ b: POKE USR CHR$ n+f,b
: NEXT f: NEXT n
9030 DATA -1,-1,128,128,128,128,
128,-1,-1,-1,1,1,1,1,1,-1
9040 DATA -1,-1,-1,195,195,195,1
95,195,195,195,195,195,195,-1,-1
,-1
9050 DATA 0,195,195,246,246,189,
189,153,153,153,153,129,195,102,
60,0,129,195,102,60,0,0,0,0
9060 DATA 0,0,24,60,60,24,0,0
9070 DATA 1,1,3,7,15,15,15,27,19
,51,35,35,99,67,-1,-1,128,128,19
```

```
2,224,240,240,240,248,248,252,25
2,252,254,254,-1,-1
9080 DATA 0,0,0,0,0,0,15,63,0,0,
0,15,28,124,-1,-1,0,0,0,0,0,12,6
2,254,127,-1,-1,63,15,0,0,0,-1,-
1,-1,-1,252,0,0,0,-1,-1,-1,31,31
,0,0,0
9900 REM Instructions
9901 PAUSE 150: CLS : PRINT FLAS
H 1;AT 0,7;"Jannis the Menace"
9910 PRINT "        (no relation to
 Dennis)   The object of this g
ame is to  knock the cans off t
he the wall before your Granny C
omes with  her elephant hide De
mon Wacker Slipper!!!
           The controls are:-
                        6--Left
                        7--Right
                        0--Fire"
9920 PRINT AT 21,0;"Press any ke
y to continue": PAUSE 0: BEEP 1,
10: BEEP .5,-30: CLS
9921 PRINT "You can only fire a
stone when  the catapult looks l
ike this E
          F. When you have cleare
d a sheet   of cans you will hav
e a chance  to get some more tim
e before    granny comes.You do
this by     knocking the policem
ans hat off before he reaches th
e other side of the wall if he r
eaches the  other side you will
lose forty  points!!
            If there are no can
s left and  the police man's hat
 does not   appear then there is
 an         invisible can somewh
ere on the  wall you have to fin
d it,you maysee the can disappea
ring.                  Good luck
"
9922 PRINT AT 21,0;"Press any ke
y to continue": PAUSE 0: BEEP 1,
10: BEEP .5,-30: CLS
9999 GO TO 15
```

Siege

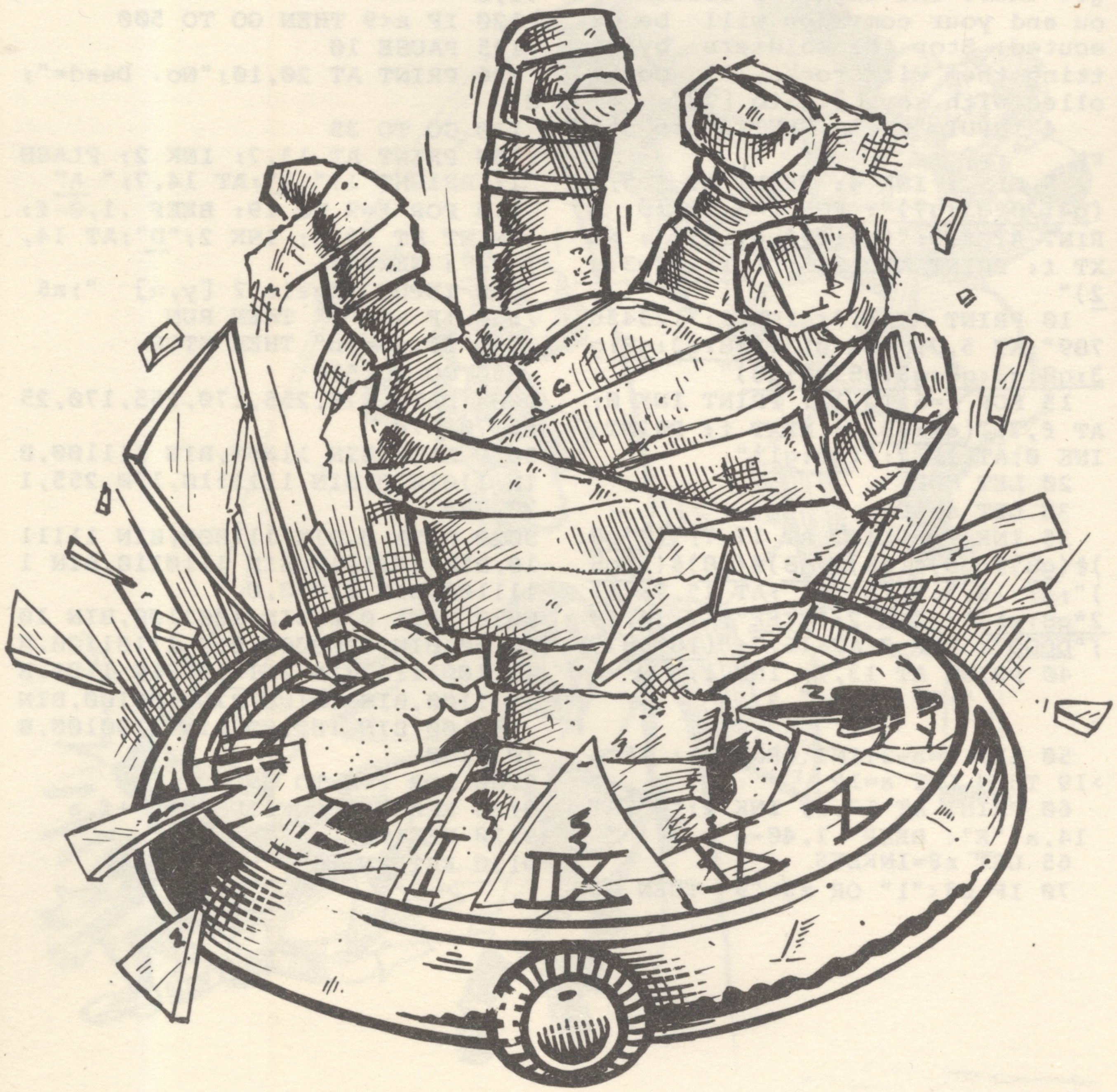
Protect your castle from the enemy soldiers who want to take it over. They will run towards your portcullis one by one. If they reach it the fight is lost and your comrades will be executed. Defend yourselves by dropping rocks on the enemy. (16K Spectrum)



```
   1 PAPER 6: BORDER 5: INK Ø: C
LS
   2 RESTORE 9ØØØ: GO SUB 9ØØØ
   3 PRINT AT 3,12;"SIEGE";AT 3,
12; OVER 1;"     ";AT 5,Ø;"Prote
ct your castle from the    enemy
 soldiers who want to take it ov
er. They will run towards  the p
ortcullis one by one,if    they
get there the fight is lostand y
ou and your comrades will  be ex
ecuted. Stop the soldiers  by hi
tting them with rocks,     contr
olled with keys [1] to [9]"
   4 INPUT "Press ~ENTER~ to sta
rt    ";x$
   5 CLS : INK 4: PRINT AT 2,5;"
(g4:2Ø*g3:g7)": FOR f=3 TO 19: P
RINT AT f,5;"(g5:2Ø*sp:ig5)": NE
XT f: PRINT AT 19,5;"(g1:2Ø*g3:g
2)"
  1Ø PRINT AT 4,9; INK 1;"123456
789";AT 5,7; INK Ø;"2*g8:g3:g8:g
3:g8:g3:g8:g3:g8:g3:g8)"
  15 FOR f=6 TO 11: PRINT INK Ø;
AT f,7;"(g8:g5)": NEXT f: PRINT
INK Ø;AT 12,7;"(g8:g1)"
  2Ø LET d=Ø
  3Ø LET a=18
  35 INK Ø: PRINT AT 17,7;"(2*g8
)#(g8)#(g8)#(g8)#(g8)#(g8)#(5*g8
)";AT 18,7;"(18*g8)";AT 15,7;"(1
2*g8:g1)"; INK 2;"EEEE";AT 14,2Ø
;"DDDD"; INK Ø;AT 16,7;"(18*g8)"
  4Ø PRINT AT 13,7; INK 1;" B
        ";AT 14,7;" A
"
  5Ø LET a=a-2+INT (RND*4): IF a
>19 THEN LET a=19
  6Ø PRINT AT 13,a; INK 2;"D";AT
 14,a;"E": BEEP .1,4Ø-a
  65 LET z$=INKEY$
  7Ø IF z$<"1" OR z$>"9" THEN GO
TO 12Ø
  8Ø LET i=(CODE z$)-4Ø
  9Ø FOR b=6 TO 14: PRINT AT b,i
;" ";AT b+1,i;"C": BEEP .Ø1,2Ø-b
: NEXT b
 1ØØ IF i=a THEN LET d=d+1: FOR
f=1 TO 3: FOR g=Ø TO 12: BEEP .Ø
Ø5,g: NEXT g: NEXT f: GO TO 3Ø
 11Ø PRINT AT 15,i;"(g3)": BEEP
.1,Ø
 12Ø IF a<9 THEN GO TO 5ØØ
 125 PAUSE 1Ø
 126 PRINT AT 2Ø,1Ø;"No. Dead=";
d
 13Ø GO TO 35
 5ØØ PRINT AT 13,7; INK 2; FLASH
 1; BRIGHT 1;" B";AT 14,7;" A"
 51Ø FOR f=9 TO 19: BEEP .1,Ø-f:
 PRINT AT 13,f; INK 2;"D";AT 14,
f;"E": NEXT f
 52Ø INPUT "Again ? [y,n]  ";a$
 53Ø IF a$="y" THEN RUN
 54Ø IF a$="n" THEN STOP
 55Ø GO TO 52Ø
9ØØØ DATA 17Ø,255,17Ø,255,17Ø,25
5,17Ø,17Ø
9Ø1Ø DATA BIN 11ØØØ,BIN 1111ØØ,B
IN 11Ø1Ø1Ø,BIN 111111Ø,17Ø,255,1
7Ø,255
9Ø2Ø DATA Ø,BIN 111ØØØ,BIN 11111
1Ø,BIN 1Ø1111Ø,BIN 111Ø11Ø,BIN 1
1111ØØ,BIN 11ØØØ,Ø
9Ø3Ø DATA Ø,Ø,BIN 1ØØ11ØØ,BIN 1Ø
Ø11ØØ,BIN 1ØØØØØØ,BIN 111Ø11ØØ,B
IN 1ØØ111Ø,BIN 11111Ø,BIN 11ØØ,B
IN 11ØØ,BIN 1Ø1ØØ,BIN 1ØØ1ØØ,BIN
 1ØØ1ØØ,BIN 1ØØ1ØØ,BIN 11ØØ1ØØ,B
IN 11ØØ
91ØØ FOR f=Ø TO 39
911Ø READ a: POKE USR "a"+f,a
912Ø NEXT f
913Ø RETURN
```

Escape from Time

ESCAPE FROM TIME is a full scale adventure program for the 48K Spectrum. Your aim is to escape through time into your own world. To do so you must find the crystal of power and a microchip to power your time machine. Once you have them you must take them to the Time Room. Commands which you will most frequently use are north, south, east, west, up, down, enter, leave, look, take, drop, list and open.



```
  10 POKE 23609,20: GO TO 1190
  15 PRINT '" THE OBJECT IS TO E
SCAPE BACK   INTO YOUR OWN TIME
THROUGH A    TIME MACHINE.TO FLY
 THE MACHINE,A PROGRAMED MICRO-C
HIP AND THE  CRYSTAL OF POWER AR
E NEEDED.

                      GOOD LUCK
 !"
  20 IF o(3)=0 THEN GO TO 155
  30 LET n=0: LET s=0: LET e=0:
LET w=0: LET u=0: LET d=0: LET e
n=0: LET l=0: GO SUB (2000+mr*10
)+5
  40 LET mr=0: LET mm=INT (RND*8
)+1
  50 IF mm=6 AND n<>0 THEN LET m
r=n
  60 IF mm=5 AND s<>0 THEN LET m
r=s
  70 IF mm=4 AND e<>0 THEN LET m
r=e
  80 IF mm=3 AND w<>0 THEN LET m
r=w
  90 IF mm=2 AND u<>0 THEN LET m
r=u
 100 IF mm=1 AND d<>0 THEN LET m
r=d
 110 IF mm=7 AND en<>0 THEN LET
mr=en
 120 IF mm=8 AND l<>0 THEN LET m
r=l
 130 IF mr=0 THEN GO TO 40
 140 IF mr=r THEN PRINT '" IN TH
E ROOM WITH YOU IS THE     MUMMY!
": LET x=x+1: GO SUB 9390
 150 IF x>=5 THEN GO TO 1250
 155 LET n=0: LET s=0: LET e=0:
LET w=0: LET u=0: LET d=0: LET e
n=0: LET l=0: GO SUB 2000+r*10
 160 LET z=0
 170 FOR f=1 TO 12
 180 IF c(f)<>r THEN GO TO 210
 190 IF z=0 THEN PRINT '"  THERE
 IS ALSO:"
 200 LET z=1: PRINT "   ";c$(f)
 210 NEXT f
 220 INPUT "WHAT WILL YOU DO ?";
a$: RESTORE 9100: CLS : PRINT "
>";a$
 230 FOR c=1 TO 29: READ d$: IF
LEN d$-2>LEN a$ THEN GO TO 250
 240 IF d$(3 TO )=a$( TO LEN d$-
2) THEN GO TO 280
 250 NEXT c
 260 PRINT '"INVALID COMMAND.":
GO TO 220
 270 PRINT '"COMMAND CANNOT BE C
ARRIED OUT.": GO TO 220
 280 LET z=VAL d$( TO 2)
 290 GO TO 290+z*10
 291 GO TO 1400
 295 GO TO 1340
 300 IF b>=5 THEN PRINT '" YOU C
AN'T CARRY ANYMORE.": GO TO 220
 310 FOR f=1 TO 12
 320 IF c(f)=r THEN GO TO 340
 330 NEXT f: PRINT '" I DON'T SE
E IT !": GO TO 220
 340 IF LEN a$-5>LEN c$(f) THEN
GO TO 330
 345 IF LEN a$<6 THEN PRINT '" T
AKE WHAT ?": GO TO 220
 350 IF a$(6 TO )=c$(f, TO LEN a
$-5) THEN GO TO 370
 360 GO TO 330
 370 FOR g=1 TO 4
 380 IF b$(g,1)=" " THEN GO TO 4
00
 390 NEXT g: STOP
 400 LET b$(g)=c$(f)
 410 LET b=b+1
 420 LET c(f)=0
 430 PRINT '" OKAY."
 440 GO TO 220
 450 FOR g=1 TO 4
 460 IF LEN a$-5>LEN b$(g) THEN
GO TO 480
 465 IF LEN a$<6 THEN PRINT '" D
ROP WHAT ?": GO TO 220
 470 IF a$(6 TO )=b$(g, TO LEN a
$-5) THEN GO TO 490
 480 NEXT g: PRINT '" YOU DON'T
HAVE IT !": GO TO 220
 490 LET b=b-1
 500 FOR f=1 TO 12
 510 IF c(f)=0 THEN GO TO 530
 520 NEXT f: STOP
 530 LET c(f)=r: LET c$(f)=b$(g)
: LET b$(g)=""
```

```
 54Ø GO TO 43Ø
 55Ø RESTORE 92ØØ
 56Ø FOR g=1 TO 4
 57Ø IF LEN a$-4>LEN b$(g) THEN
GO TO 59Ø
 575 IF LEN a$<5 THEN PRINT '" U
SE WHAT ?": GO TO 22Ø
 58Ø IF a$(5 TO )=b$(g, TO LEN a
$-4) THEN GO TO 6ØØ
 59Ø NEXT g: PRINT '" YOU DON'T
HAVE IT !": GO TO 22Ø
 6ØØ FOR h=1 TO 1Ø: READ e$
 61Ø IF VAL e$( TO 2)=r THEN GO
TO 63Ø
 62Ø NEXT h: PRINT '" YOU CAN'T
IN HERE.": GO TO 22Ø
 63Ø IF e$(3 TO )<>b$(g, TO LEN
e$-2) THEN GO TO 62Ø
 64Ø GO TO VAL e$( TO 2)*1Ø+3ØØØ
 65Ø GO TO 2Ø
 66Ø PRINT '" YOU ARE CARRYING:"
 67Ø LET g=1
 68Ø FOR f=1 TO 4
 69Ø IF b$(f,1)=" " THEN GO TO 7
2Ø
 7ØØ PRINT "  ";b$(f)
 71Ø LET g=Ø
 72Ø NEXT f
 73Ø IF g THEN PRINT " NOTHING."
 74Ø GO TO 22Ø
 75Ø IF n=Ø THEN GO TO 118Ø
 76Ø LET r=n: GO TO 2Ø
 77Ø IF s=Ø THEN GO TO 118Ø
 78Ø LET r=s: GO TO 2Ø
 79Ø IF e=Ø THEN GO TO 118Ø
 8ØØ LET r=e: GO TO 2Ø
 81Ø IF w=Ø THEN GO TO 118Ø
 82Ø LET r=w: GO TO 2Ø
 83Ø IF u=Ø THEN GO TO 118Ø
 84Ø LET r=u: GO TO 2Ø
 85Ø IF d=Ø THEN GO TO 118Ø
 86Ø LET r=d: GO TO 2Ø
 87Ø IF en=Ø THEN GO TO 118Ø
 88Ø LET r=en: GO TO 2Ø
 89Ø IF l=Ø THEN GO TO 118Ø
 9ØØ LET r=l: GO TO 2Ø
 91Ø CLEAR : STOP
 92Ø IF r=8 THEN GO TO 94Ø
 93Ø IF r<>11 THEN GO TO 124Ø
 935 LET r=8: GO TO 95Ø
 94Ø LET r=11
 95Ø PRINT '" THE ROCK FACE OPEN
S AND YOU    WALK THROUGH.": PAU
SE 1ØØ
 96Ø GO TO 2Ø
 97Ø IF r<>12 THEN PRINT '" YOU
CAN'T.": GO TO 22Ø
 971 FOR f=1 TO 4
 98Ø IF b$(f, TO 4)="wood" THEN
GO TO 1ØØØ
 99Ø NEXT f: PRINT '" YOU DON'T
HAVE ANY WOOD.": GO TO 22Ø
1ØØØ LET b$(f)="ladder"
1Ø1Ø PRINT '" YOU'RE A GENIUS !"
1Ø2Ø GO TO 66Ø
1Ø3Ø FOR f=1 TO 4
1Ø4Ø IF b$(f, TO 1Ø)="can of oil
" THEN GO TO 1Ø6Ø
1Ø5Ø NEXT f: PRINT '" YOU DON'T
HAVE ANY OIL.": GO TO 22Ø
1Ø6Ø LET o(5)=1
1Ø7Ø PRINT '" THE BUTTON IS LOOS
E.": GO TO 22Ø
1Ø8Ø IF r<>31 THEN GO TO 27Ø
1Ø85 FOR f=1 TO 4
1Ø9Ø IF b$(f, TO 8)="hair pin" T
HEN GO TO 111Ø
11ØØ NEXT f: PRINT '" YOU NEED S
OMETHING TO PICK THE LOCK WITH."
: GO TO 22Ø
111Ø LET o(4)=1
112Ø PRINT '" THE DOOR IS OPEN."
: LET en=35: GO TO 22Ø
113Ø IF r=35 OR r=43 THEN GO TO
1135
1134 PRINT '" I DON'T SEE A BUTT
ON !": GO TO 22Ø
1135 IF o(5)=1 THEN GO TO 116Ø
114Ø PRINT '" THE BUTTON IS TO S
TIFF TO PUSH."
115Ø GO TO 22Ø
116Ø LET r=37
117Ø PRINT '" THE LIFT RISES.":
GO SUB 93ØØ: GO TO 2Ø
118Ø PRINT '" YOU CAN'T GO THAT
WAY.": GO TO 22Ø
119Ø RESTORE 9ØØØ: DIM o(5): DIM
 b$(4,1Ø): DIM c(12): DIM c$(12,
1Ø)
```

```
1200 LET y=0: LET yy=0: LET x=0:
 LET mr=21: LET b=1: LET r=1
1210 FOR f=1 TO 12: READ a$,g
1220 LET c(f)=g: LET c$(f)=a$: N
EXT f
1230 BORDER 7: INK 0: PAPER 7: C
LS : PRINT FLASH 1;"********ESCA
PE FROM TIME********": GO TO 15
1240 PRINT '" NOTHING HAPPENS.":
 GO TO 220
1250 PAUSE 100: CLEAR : PRINT '"
 THE MUMMY CATCHES YOU AND TAKES
YOU PRISONER OF HIS DOMAIN.THERE
IS NO ESCAPE FOR YOU...SORRY!"
1260 BEEP .001,50: BEEP .001,0:
FOR f=1 TO 5: BEEP .003,INT (RND
*20): NEXT f: BEEP .01,5: GO TO
1260
1270 IF r=21 THEN LET o(3)=1
1280 IF r=4 THEN LET o(1)=1
1290 IF r<>21 AND r<>4 THEN GO T
O 1330
1300 IF r=21 THEN PRINT '" THE M
UMMY CASE OPENS RELEASING THE MU
MMY FROM ITS TOMB."
1310 IF r=4 THEN PRINT '" THE DO
OR SWINGS OPEN."
1314 IF r=21 THEN GO SUB 9330
1315 IF r=4 THEN LET en=14
1320 GO TO 220
1330 PRINT '" YOU CAN'T.": GO TO
 220
1340 IF r=mr THEN GO TO 1360
1350 PRINT '" YOU CAN'T.": GO TO
 220
1360 FOR f=1 TO 4
1370 IF b$(f, TO 5)="knife" THEN
 GO TO 1390
1380 NEXT f: GO TO 1350
1390 PRINT '" YOU STAB THE MUMMY
 AND IT      DISINTERGRATES AT Y
OUR FEET.": LET o(3)=0: LET mr=0
: GO SUB 9610: GO TO 220
1400 PRINT '" YOU ENTER INTO ANO
THER ROOM    THROUGH THE MIRROR.
": LET r=29: LET e=0: GO TO 220
2010 PRINT '" YOU ARE AT A CROSS
-ROADS IN THEPASSAGE."
2015 LET n=2: LET s=9: LET w=8:
LET e=3: RETURN
2020 PRINT '" YOU ARE AT A JUNCT
ION WHERE YOUCAN GO NORTH,WEST O
R SOUTH."
2025 LET n=5: LET w=7: LET s=1:
RETURN
2030 PRINT '" YOU COME TO A JUNC
TION IN THE  PASSAGE WHERE THE E
XITS ARE WESTAND NORTH.AN OPEN D
OOR IS IN THEEAST END OF THE PAS
SAGE."
2035 LET n=4: LET w=1: LET en=13
: RETURN
2040 PRINT '" THE PASSAGE COMES
TO A DEAD ENDAPART FROM A DOOR T
O THE EAST.  ";
2041 IF O(1)=0 THEN PRINT "THE D
OOR IS LOCKED TIGHT."
2042 IF O(1)=1 THEN PRINT "THE D
OOR IS WIDE OPEN.": LET EN=14
2045 LET s=3: RETURN
2050 PRINT '" AT A TURNING IN TH
E PASSAGE,   STEPS GO DOWN.THE P
ASSAGE GOES   SOUTH AND EAST."
2055 LET s=2: LET e=6: LET d=10:
 RETURN
2060 PRINT '" A HIGH WALL SEEMS
TO PREVENT   YOU FROM  GOING EAS
TWARDS.TO THEWEST THE WAY IS CLE
AR."
2065 LET w=5: RETURN
2070 IF o(2)=0 THEN PRINT '" THE
 FLOOR IS COVERED IN GREASE AND
AS YOU TRY TO GO OVER IT,YOUSLIP
 BACK.IT LOOKS AS IF YOU    WILL
 HAVE TO GO EAST."
2073 IF o(2)=1 THEN PRINT '" YOU
 ARE IN A CLEAN,EAST/WEST   PASS
AGE.": LET W=12
2075 LET e=2: RETURN
2080 PRINT '" A SHEET OF ROCK BL
OCKS YOUR WAYTO THE WEST SO EXIT
 TO THE EAST."
2085 LET e=1: RETURN
2090 PRINT '" YOU COME TO A JUNC
TION IN THE  PASSAGE.DIRECTIONS
ARE NORTH,   EAST AND SOUTH."
2095 LET n=1: LET s=17: LET e=15
: RETURN
```

```
2100 PRINT '" AT THE BOTTOM OF T
HE STEPS IS ACELLAR.THE ROOM IS
PRETTY MUCH  EMPTY AND VERY DIRT
Y."
2105 LET u=5: RETURN
2110 PRINT '" YOU ARE IN A ROOM
WITH A TABLE IN THE CENTRE OF IT
.BEHIND YOU, THE ROCK FACE IS CL
OSED."
2115 RETURN
2120 PRINT '" YOU ARE IN A WORKS
HOP.TOOLS     HANG AROUND THE WAL
LS AND A      WORK BENCH IS IN TH
E CENTRE."
2125 LET l=7: RETURN
2130 PRINT '" YOU ARE IN THE LIV
ING QUARTERS OF A CREATURE.A FIR
E PLACE IS INTHE CORNER OF THE R
OOM."
2135 LET l=3: RETURN
2140 PRINT '" THROUGH THE DOOR Y
OU FIND THAT YOU ARE IN A LIBRAR
Y.BOOKS ARE   STACKED NEATLY ON S
HELVES THAT   ARE VERY HIGH."
2145 LET l=4: RETURN
2150 PRINT '" YOU COME TO A RIVE
R FLOWING     NORTH TO SOUTH.ON T
HE BANK IS A BOAT.YOU CAN RETURN
 TO THE WEST."
2155 LET w=9: RETURN
2160 PRINT '" YOU ROW THE BOAT A
CROSS THE     RIVER WHERE YOU ENT
ER A CAVERN. YOU BOARD LAND AND
LEAVE THE     BOAT ON THE BANK."
2165 RETURN
2170 PRINT '" YOU ARE AT THE TOP
 OF SOME      STEPS.A PASSAGE LEA
DS NORTH."
2175 LET d=18: LET n=9: RETURN
2180 PRINT '" YOU ARE AT THE BOT
TOM OF THE    STEPS.A CORIDOR GOE
S NORTH AND  A DOOR IS IN THE WE
ST WALL."
2185 LET u=17: LET n=19: LET w=2
0: RETURN
2190 PRINT '" YOU ARE IN THE CEN
TRE OF SOME   PASSAGES.THEY GO NO
RTH,EAST AND SOUTH."
2195 LET e=23: LET n=21: LET s=1
8: RETURN
2200 PRINT '" YOU ARE IN A BROOM
 CUPBOARD."
2205 LET l=18: RETURN
2210 PRINT '" YOU ARE IN AN EGYP
TIAN ROOM.A  MUMMY CASE STANDS I
N THE CORNER.ON IT IS INSCRIBED
~";: POKE 23606,60: POKE 23607,0
:: PRINT "BEWARE";: POKE 23607,6
0: POKE 23606,0: PRINT "~  .   EX
ITS ARE SOUTH AND EAST."
2212 IF o(3)=1 THEN PRINT '" THE
 MUMMY CASE IS OPEN AND     EMPT
Y !"
2213 GO SUB 9330
2214 IF o(3)=1 THEN LET en=27
2215 LET s=19: LET e=22: RETURN
2220 PRINT '" YOU COME TO A DEAD
-END IN THE   PASSAGE.THE ONLY WA
Y BACK IS     WEST."
2225 LET w=21: RETURN
2230 PRINT '" THIS PASSAGE IS CL
OSED OFF AT  ONE END.A SIGN IS U
NREADABLE ON THE WALL.EXIT TO TH
E WEST."
2235 LET w=19: RETURN
2270 PRINT '" YOU ENTER THROUGH
THE MUMMY     CASE AND IT SWINGS
SHUT--TIGHT ! YOU ARE NEAR THE E
ND OF YOUR    ADVENTURE.HAVE YOU
GOT THE       CRYSTAL OF POWER AN
D THE MICRO   CHIP ? IF YOU HAVE
THEN USE THEMIN THE RIGHT ORDER.
"
2271 PRINT " IF YOU DON'T HAVE O
NE OF THEM   OR EITHER OF THEM TH
EN YOU ARE   LOST."
2275 RETURN
2280 PRINT '" A HIGH WALL IS TO
THE WEST.ON   THE LEFT OF THE PAS
SAGE IS A     MIRROR IN THE WALL.
TO THE EAST   YOU CAN SEE A TURNI
NG IN THE     PASSAGE."
2285 LET e=30: RETURN
2290 PRINT '" A MIRROR IS IN THE
 WALL BEHIND YOU.THE ROOM YOU AR
E IN IS AN    ARMARY.A DOOR IS OP
EN TO THE     EAST."
2295 LET l=28: LET en=36: RETURN

2300 PRINT '" YOU ARE AT A BEND
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```
IN THE        PASSAGE.YOU CAN GO
SOUTH OR      WEST."
2305 LET w=28: LET s=31: RETURN
2310 PRINT '" THE PASSAGE ENDS I
N A DOOR.YOU CAN GO BACK NORTH I
F YOU NEED. ";
2311 IF O(4)=0 THEN PRINT "THE D
OOR IS  LOCKED."
2312 IF O(4)=1 THEN PRINT "THE D
OOR IS  OPEN."
2313 IF O(4)=1 THEN LET en=35
2315 LET n=30: RETURN
2350 PRINT '" IN THE ROOM IS A L
IFT.THE        BUTTON IS ON THE WA
LL BY IT.AN  OPEN DOOR IS THE EX
IT FROM THE  LIFT ROOM."
2355 LET l=30: RETURN
2360 PRINT '" IN THE ROOM IS A D
RESSING TABLE"
2365 LET l=29: RETURN
2370 PRINT '" THE LIFT OPENS ON
TO A HALL.  YOU CAN GO BACK DOW
N OR EAST."
2375 LET d=43: LET e=38: RETURN
2380 PRINT '" YOU ARE STANDING A
T A JUNCTION.YOU MAY GO NORTH,WE
ST OR SOUTH."
2385 LET w=42: LET n=39: LET s=4
0: RETURN
2390 CLEAR : PRINT '" YOU FALL I
NTO A PIT COVERED BY FLOOR TILES
 AS THEY OPEN UNDER  YOUR FEET.Y
OU TRY TO GRASP THE  EDGE BUT MI
SS AND FALL TO YOUR  DEATH.": PA
USE 300: GO SUB 9460
2395 BEEP .003,10: BEEP .01,0: B
EEP .02,INT (RND*10): GO TO 2395
2400 PRINT '" YOU WALK INTO A RO
OM AND ON THEFLOOR YOU SEE A TRA
P DOOR.YOU   WILL HAVE TO GO BAC
K NORTH, BUT ONLY ONCE."
2405 LET n=38: LET s=41: RETURN
2410 GO TO 2390
2420 GO SUB 9530: PRINT '" YOU A
RE BACK AT THE LIFT.YOU  CAN ON
LY GO DOWN OR BACK EAST."
2425 LET e=38: LET d=43: RETURN
2430 GO SUB 9500: PRINT '" THE L
IFT OPENS ONTO THE GROUND FLOOR.
A DOOR IS OPEN IN THE WESTWALL O
F THE ROOM.PUSH THE BUTTONTO GO
BACK UP."
2435 LET l=30: RETURN
3060 PRINT '" THE LADDER REACHES
 THE TOP OF  THE WALL AND YOU CL
IMB UP IT.ON TOP OF THE WALL YOU
 PICK IT UP  AND USE IT TO GET D
OWN THE OTHERSIDE."
3065 LET r=28: GO TO 220
3070 PRINT '" THE GREASE WASHES
OFF THE FLOORMAKING IT CLEAN."
3075 LET o(2)=1: GO TO 20
3150 FOR f=1 TO 4: IF b$(f, TO 4
)="oars" THEN GO TO 3153
3151 NEXT f
3152 CLEAR : GO SUB 9560: PRINT
'" THE BOAT DRIFTS DOWN STREAM A
S YOU DON'T HAVE ANY OARS.AS YOU
  DRIFT YOU HIT YOUR HEAD AND FA
LLOVERBOARD.UNABLE TO REACH THE
  BANK,YOU DROWN.": GO TO 2395
3153 PRINT  " YOU ROW THE BOAT T
O THE OTHER  BANK."
3154 IF r=15 THEN GO TO 3157
3155 LET r=15: GO TO 20
3157 LET r=16: GO TO 20
3160 GO TO 3150
3180 PRINT " THE DOOR UNLOCKS A
ND FALLS OPEN": LET en=20: GO TO
 220
3210 PRINT " THE WRITING ON THE
 MUMMY CASE  SAYS ~BEWARE~": GO
TO 220
3230 PRINT  " THE SIGN SAYS-~USE
 THE WORDS    ""OPEN SESAME"" IN
THE RIGHT PLACE AND YOUR WAY WIL
L BE CLEARED.~": GO TO 220
3270 IF a$(5 TO )="micro-chip" O
R a$(5 TO )="m" AND yy=1 THEN GO
 TO 3320
3275 GO TO 3380
3280 PRINT '" YOU CLIMB OVER THE
 WALL.": LET r=5: GO TO 20
3290 IF a$(5 TO )="crystal" OR a
$(5 TO )="c" AND y=1 THEN GO TO
3350
3300 IF a$(5 TO )="crystal" OR a
$(5 TO )="c" THEN LET yy=1
3310 GO TO 220
3320 CLEAR : PRINT '" AS YOU REA
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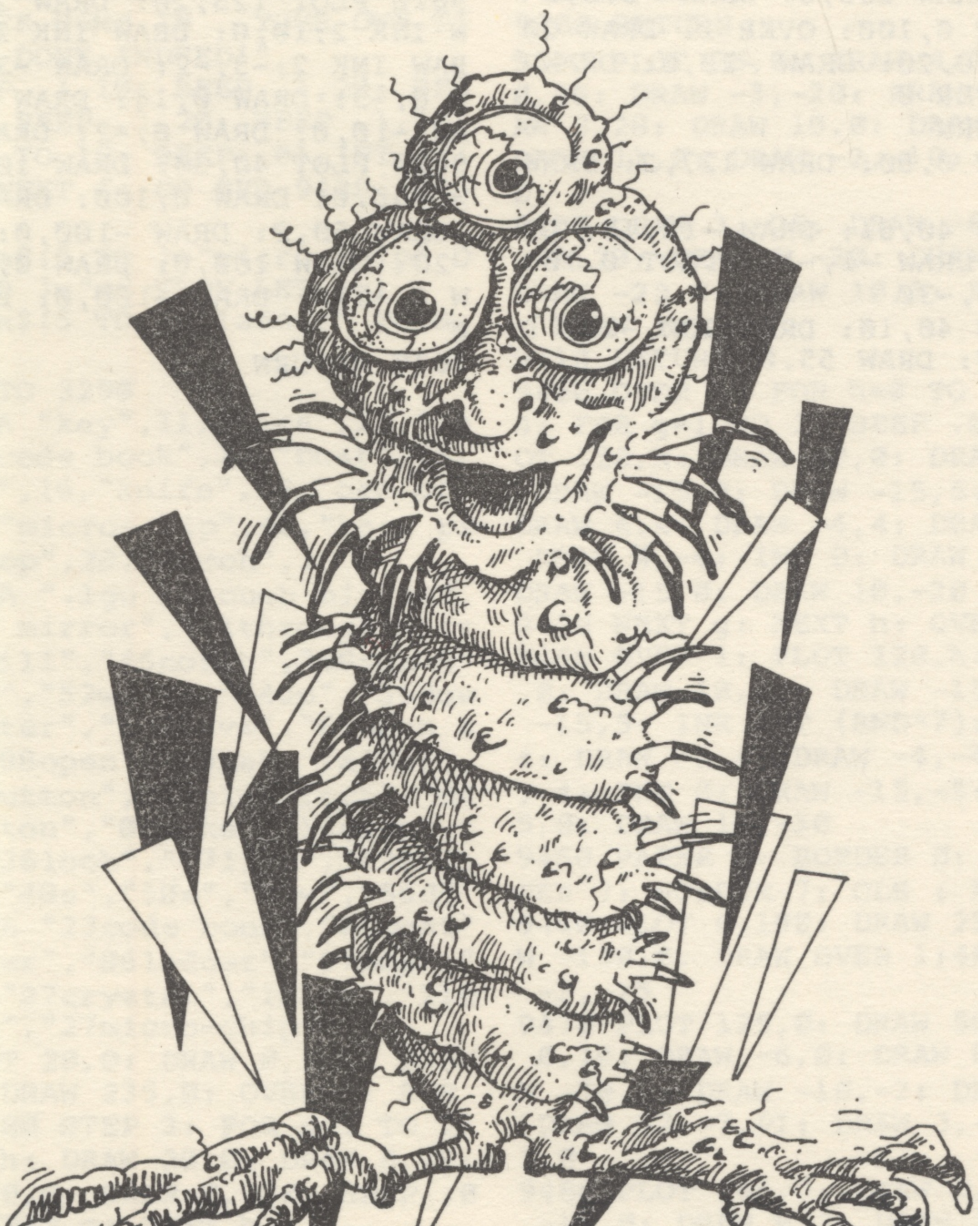
```
CH IN AND CONNECT THEMICRO-CHIP,
POWER FROM THE CRYSALIMEADIATLY
KILLS YOU.BAD LUCK !": GO TO 239
5
3350 CLEAR : PRINT '" THE CRYSTA
L SLIPS INTO PLACE   AND THE MAC
HINE BEGINS TO SHAKE.YOU FALL UN
CONCIOUS AND WAKE UP TO FIND YOU
RSELF BACK HOME IN   YOUR OWN TI
ME. WELL DONE INDEED!"
3360 BEEP .1,10: BEEP .1,20: BEE
P .1,30: BEEP .1,20: BEEP .1,10:
 FOR f=1 TO 10: BEEP .01,INT (f/
10)+10: NEXT f: GO SUB 9420: GO
TO 3350
3380 IF a$(5 TO )="micro-chip" O
R a$(5 TO )="m" THEN LET y=1
3390 IF a$(5 TO )="ladder" THEN
LET r=6
3400 GO TO 3290
9000 DATA "key",11,"oars",12,"wo
od",13,"code book",14,"boat",15,
"crystal",16,"knife",29,"can of
oil",10,"micro-chip",40,"hair pi
n",36,"mop",20,"torch",1
9100 DATA ".1go through mirror",
".1enter mirror",".1through mirr
or",".5kill","46north","48south"
,"50east","52west","54up","56dow
n","58enter","60leave","63open s
esame","98open","68make ladder",
"74oil button","79pick lock","84
push button","01take","16drop","
26use","36look","37list","62quit
","46n","48s","50e","52w","56d"
9200 DATA "23code book","16boat"
,"28ladder","06ladder","07mop","
15boat","27crystal","18key","21c
ode book","27micro-chip"
9300 PLOT 20,0: DRAW 0,150: DRAW
 0,-50: DRAW 235,0: OVER 1: FOR
h=0 TO 100 STEP 3: FOR g=1 TO 2:
 PLOT 0,h: DRAW 20,0: DRAW 0,20:
 DRAW -20,0: DRAW 0,-20: BEEP .0
1,h/2: NEXT g: NEXT h
9310 DRAW 20,0: DRAW 0,20: DRAW
-20,0: DRAW 0,-20: OVER 0
9320 RETURN
9330 PLOT 122,0: DRAW 20,0: DRAW
 5,40: DRAW -15,10: DRAW -15,-10
: DRAW 5,-40
9340 IF o(3)=1 THEN GO TO 9370
9350 POKE 23607,0: PRINT AT 17,1
5;"fgh"
9360 POKE 23607,60: GO TO 9380
9370 PLOT 152,0: DRAW 20,0: DRAW
 5,40: DRAW -15,10: DRAW -15,-10
: DRAW 5,-40
9380 RETURN
9390 PLOT 80,0: DRAW 4,30: DRAW
0,20: DRAW -3,-20: DRAW -6,0: DR
AW 3,28: DRAW 10,0: DRAW -2,10:
DRAW 11,0: DRAW -2,-10: DRAW 10,
0
9400 DRAW 3,-28: DRAW -6,0: DRAW
 -3,20: DRAW 0,-20: DRAW 4,-30:
DRAW -22,0: DRAW 10,0: DRAW 1,15
: DRAW 1,-15
9410 RETURN
9420 OVER 1: FOR h=0 TO 50 STEP
4: FOR g=1 TO 2: BEEP .01,20: PL
OT 120,h: DRAW 40,0: DRAW 10,30:
 DRAW -15,0: DRAW -15,5: INK 5:
DRAW 4,4: DRAW -4,4: DRAW -4,-4:
 DRAW 4,-4: INK 0: DRAW -15,-5:
DRAW -15,0: DRAW 10,-30
9430 NEXT g: NEXT h: OVER 0
9440 OVER 1: PLOT 120,h: DRAW 40
,0: DRAW 10,30: DRAW -15,0: DRAW
 -15,5: INK INT (RND*7): DRAW 4,
4: DRAW -4,4: DRAW -4,-4: DRAW 4
,-4: INK 0: DRAW -15,-5: DRAW -1
5,0: DRAW 10,-30
9450 PAPER 0: BORDER 0: CLS : PA
PER 7: BORDER 7: CLS : RETURN
9460 PLOT 0,100: DRAW 255,0: DRA
W -130,0: DRAW OVER 1;40,0: DRAW
 -2,-25
9470 PLOT 125,0: DRAW 50,0: DRAW
 0,10: DRAW -6,0: DRAW 0,-4: DRA
W -30,2: DRAW -10,-2: DRAW -5,2:
 DRAW -7,-7,PI: DRAW 3,-1: DRAW
3,0
9480 PLOT 145,3: DRAW 0,-1: DRAW
 -15,0: DRAW 0,2: DRAW 15,0: DRA
W 0,-1: DRAW 2,0:
9490 RETURN
9500 PLOT 20,0: DRAW 0,150: DRAW
 0,-50: DRAW 235,0: OVER 1: FOR
h=100 TO 0 STEP -3: FOR g=1 TO 2
```

```
: PLOT Ø,h: DRAW 2Ø,Ø: DRAW Ø,2Ø
: DRAW -2Ø,Ø: DRAW Ø,-2Ø: BEEP .
Ø1,h/2: NEXT g: NEXT h
951Ø DRAW 2Ø,Ø: DRAW Ø,2Ø: DRAW
-2Ø,Ø: DRAW Ø,-2Ø: OVER Ø
952Ø RETURN
953Ø PLOT 2Ø,Ø: DRAW Ø,15Ø: DRAW
 Ø,-5Ø: DRAW 235,Ø: DRAW -235,Ø
954Ø PLOT Ø,1ØØ: OVER 1: DRAW 2Ø
,Ø: DRAW Ø,2Ø: DRAW -2Ø,Ø: DRAW
Ø,-2Ø: OVER Ø
955Ø RETURN
956Ø PLOT Ø,5Ø: DRAW 127,2: DRAW
 127,-2
957Ø PLOT 4Ø,51: DRAW -1Ø,15: DR
AW 8Ø,Ø: DRAW -1,-14: PLOT Ø,1ØØ
: DRAW 5Ø,-3Ø
958Ø DRAW 4Ø,1Ø: DRAW 1ØØ,-1Ø: D
RAW 1Ø,1Ø: DRAW 55,Ø
959Ø PLOT 5Ø,3Ø: DRAW -5,1Ø: PLO
T 5Ø,3Ø: DRAW 1Ø,1Ø: PLOT 5Ø,3Ø:
 DRAW 1Ø,5: PLOT 5Ø,3Ø: DRAW 1Ø,
Ø: PLOT 5Ø,3Ø: DRAW Ø,1Ø: PLOT 5
Ø,3Ø: DRAW -1Ø,5: PLOT 5Ø,3Ø: DR
AW -1Ø,Ø
96ØØ RETURN
961Ø PLOT 125,2Ø: DRAW 2Ø,Ø: DRA
W INK 2;1Ø,Ø: DRAW INK 2;3,-2: D
RAW INK 2;-3,-2: DRAW -3Ø,Ø: DRA
W Ø,-5: DRAW Ø,14: DRAW Ø,-6: DR
AW -1Ø,Ø: DRAW Ø,-2: DRAW 1Ø,Ø
962Ø PLOT 4Ø,3Ø: DRAW 1ØØ,Ø: DRA
W -5Ø,Ø: DRAW Ø,1ØØ: DRAW Ø,-8Ø:
 DRAW 5Ø,Ø: DRAW -1ØØ,Ø: DRAW Ø,
-2Ø: DRAW 1ØØ,Ø: DRAW Ø,12Ø: DRA
W Ø,-12Ø: DRAW -1ØØ,Ø: DRAW Ø,12
Ø
963Ø RETURN
```

Plons

PLONS is a space-invader type game for the 16K Spectrum. 30 Plons start at the top of the screen and move downwards rapidly. Move left with 'Q', right with 'W' and fire with 'P'. If you succeed in clearing one screen, a new screen will appear on which the Plons move even more quickly.



```
  1 LET me=1: PAPER 7: INK 1: B
ORDER Ø: CLS : PRINT : PRINT : L
ET m$="

     USE KEYS  'q'  & 'w'
               '<'    '>'

        'p' to fire missile

     THE PLONS ARE INVADING.
        NOW DEFEND YOUR RIGHTS
AND THE  RIGHTS OF OTHERS  OR YO
U WILL   ALL BE MADE SLAVES ``"
   2 IF m$(me)="£" THEN GO TO 5
   3 PRINT ;m$(me);: IF m$(me)<>
CHR$ 32 THEN BEEP .Ø1,5Ø:
   4 LET me=me+1: GO TO 2
   5 PAUSE 5Ø: FOR k=Ø TO 1Ø: PR
INT AT 21,k;" Press a key": BEEP
 .ØØ5,k*2: NEXT k: PAUSE Ø
  1Ø BORDER Ø: INK 7: PAPER Ø: C
LS : LET hi=Ø: PRINT AT 1Ø,1Ø; B
RIGHT Ø; INVERSE Ø;"PLEASE WAIT"
: PAUSE 4Ø: GO SUB 32Ø: PAUSE 3Ø
: GO TO 5Ø
  2Ø PRINT AT mx,my;" ": LET mx=
mx-1: IF mx=a(my) AND a(my)>=1 T
HEN PRINT AT a(my),my; INK 2; PA
PER 1;"C": LET mi=Ø: BEEP .Ø5,5:
 BEEP .Ø5,7: BEEP .Ø5,6: BEEP .Ø
5,8: PRINT AT a(my),my;" ": LET
sc=sc+1Ø: LET a(my)=Ø: LET kill=
kill+1: RETURN
  3Ø IF mx<=1 THEN LET mi=Ø: RET
URN
  4Ø BEEP .ØØ5,55: PRINT AT mx,m
y; INK 5;"↑": RETURN
  5Ø BORDER Ø: PAPER Ø: INK 7: C
LS : DIM a(3Ø): LET mi=Ø: LET by
=15: LET kill=Ø: LET sc=Ø: LET w
ave=2
  6Ø FOR x=1 TO 3Ø: LET a(x)=wav
e+5: PRINT AT a(x),x; INK Ø; PAP
ER 7;"A": NEXT x
  7Ø PRINT AT Ø,Ø; INK 6; PAPER
1;"Kill ";kill;AT Ø,1Ø; INVERSE
1; BRIGHT 1;"SCORE ";sc;AT Ø,22;
 INVERSE Ø; BRIGHT Ø;"Wave ";wav
e/2
  8Ø PLOT 7,Ø: DRAW Ø,166: PLOT
248,Ø: DRAW Ø,166: DRAW -241,Ø:
PAPER Ø: INK 7
  9Ø FOR x=1 TO 3Ø: IF a(x)=Ø TH
EN GO TO 12Ø
 1ØØ IF RND>((wave+2)/9) THEN GO
 TO 12Ø
 11Ø LET a(x)=a(x)+2: PRINT AT a
(x),x; INK 4;"A";AT a(x)-2,x;" "
 12Ø IF INKEY$="" THEN GO TO 16Ø
 13Ø LET ty=by: LET by=by+(INKEY
$="w")-(INKEY$="q"): IF ty<>by T
HEN BEEP .ØØ5,5: IF by>3Ø OR by<
1 THEN LET by=ty
 14Ø PRINT AT 21,ty; INK 7; PAPE
R Ø;" ";AT 21,by; INK 7; PAPER 2
;"B"
 15Ø IF IN 57342=254 AND mi=Ø TH
EN LET my=by: LET mx=2Ø: LET mi=
1: GO SUB 2Ø
 16Ø IF mi THEN GO SUB 2Ø: PRINT
 AT Ø,Ø; INK 6; PAPER 1;"Kill ";
kill;AT Ø,1Ø; INVERSE 1; BRIGHT
1;"SCORE ";sc;AT Ø,22; INVERSE Ø
; BRIGHT Ø;"Wave ";wave/2
 17Ø IF kill=3Ø THEN GO TO 29Ø
 18Ø IF a(x)>=21 THEN GO TO 21Ø
 19Ø NEXT x
 2ØØ GO TO 9Ø
 21Ø FOR k=1 TO 3: FOR j=Ø TO 7:
 OUT 254,j: BEEP .Ø3,8: BEEP .Ø3
,6: BEEP .Ø3,7: BEEP .Ø3,5: BEEP
 .Ø8,-2Ø: NEXT j: NEXT k
 22Ø PAUSE 7Ø: INK 1: PAPER 7: B
ORDER 7: CLS : PRINT AT 2,9;"HAR
D LUCK THE";AT 4,11; INVERSE 1;"
AALIENSA"; INVERSE Ø;AT 6,9;"HAV
E MADE YOU";AT 9,12; BRIGHT 1;"S
LAVES"
 23Ø FOR f=5 TO 1 STEP -1: BEEP
.5,f: PAUSE 1: NEXT f
 24Ø IF sc>hi THEN LET hi=sc
 25Ø PRINT AT 18,7;"HIGH SCORE "
;HI;AT 19,7;"YOUR SCORE ";SC: PA
USE 3Ø: FOR K=Ø TO 1Ø: PRINT AT
21,K;" S to start": BEEP .ØØ2,k*
2: NEXT k
 26Ø BEEP .Ø4,5: BEEP .Ø4,7: BEE
P .Ø4,6: BEEP .Ø4,8: IF INKEY$<>
"s" THEN GO TO 26Ø
```

```
270 CLS : GO TO 50
280 STOP
290 PAUSE 60: CLS : PRINT AT 12
,10; BRIGHT 1; INK 0; PAPER 7;"W
ELL DONE";AT 13,5; FLASH 1; INVE
RSE 1;"BUT NOW THINGS GET";AT 15
,9; INVERSE 0;"H A R D E R";AT 2
1,2; BRIGHT 0; FLASH 0;"  Press
any key to continue": FOR k=1 TO
 10: BEEP .04,8: BEEP .04,6: BEE
P .04,7: BEEP .04,5: NEXT k: PAU
SE 0: LET kill=0: LET wave=wave+
2
300 IF wave>12 THEN LET wave=12
310 CLS : GO TO 60
320 FOR f=USR "a" TO USR "c"+7:
READ a: POKE f,a: NEXT f
330 DATA 195,36,126,219,126,195
,126,165,90,60,231,36,126,90,66,
231,33,31,64,14,32,175,126,31
340 RETURN
```

Brick a Brack

You are a bricklayer who has just completed a wall. A bird flies over, dropping rocks which chip away bricks. Repair the wall by climbing to the top of the ladder on the right of the screen to get some bricks and place them in the appropriate place. For the 16K, a score in excess of 1000 is excellent.

```
   1 BORDER Ø: PAPER Ø: INK 7: C
LS : GO SUB 1ØØØ
   2 DATA 153,153,255,24,24,126,
66,195,152,152,255,27,27,12Ø,132
,4,129,129,255,129,129,129,255,1
29,251,251,251,Ø,191,191,191,Ø
   3 DATA Ø,14,53,11Ø,138,Ø,Ø,Ø,
Ø,Ø,128,192,32,Ø,Ø,Ø,128,11Ø,53,
14,1Ø,Ø,Ø,Ø,32,192,128,Ø,Ø,Ø,Ø,Ø
   4 LET s=16
   5 FOR n=144 TO 151: FOR f=Ø T
O 7: READ a: POKE USR CHR$ n+f,a
: NEXT f: NEXT n
   6 LET m$=" A "
   7 LET y=INT (RND*2Ø+5): LET x
=2Ø: LET a=15: LET b=INT (RND*2Ø
+5): LET h=2: LET sc=Ø
   8 LET b$=" EF "
   9 LET l=Ø
  1Ø PRINT AT 19,1; INK 2;"DDDDD
DDDDDDDDDDDDDDDDDDDDDDDDD";AT 18
,1; INK 3;"DDDDDDDDDDDDDDDDDDDDD
DDDDDDDDDD"
  15 FOR n=1 TO h: PRINT AT 2Ø-n
,3Ø;"C": NEXT n: PRINT AT 2Ø-n,3
Ø;"D"
  17 LET h=h+1
  18 IF h=18 THEN FOR n=21 TO Ø
STEP -1: PRINT AT n,3Ø;" ": NEXT
 n: LET h=2: LET x=2Ø: GO TO 15
  2Ø PRINT AT x,y-1;m$
  3Ø PRINT AT a,b-1; INK 6;b$
  31 IF RND>.95 THEN LET l=1
  35 IF INKEY$="Ø" THEN GO TO 11
Ø
  4Ø LET y=y+(INKEY$="8" AND y<3
Ø AND x>=2Ø)-(INKEY$="5" AND y>1
 AND x>=2Ø)
  45 IF l=1 THEN GO SUB 2ØØ
  5Ø IF INKEY$="7" AND y=3Ø AND
x>=2Ø-h+1 THEN LET x=x-1: PRINT
AT x,y;"A";AT x+1,y;"C"
  55 IF INKEY$="6" AND x<2Ø THEN
 LET x=x+1: PRINT AT x,y;"A";AT
x-1,y;"C"
  6Ø LET b=b+(RND>.5 AND b<28)-(
RND<.5 AND b>2)
  7Ø IF x=2Ø-h+1 THEN LET m$=" B
 ": PRINT AT x-1,y;" "
  8Ø LET sc=sc+1
  85 LET b$=" EF "
  9Ø IF sc/2<>INT (sc/2) THEN LE
T b$=" GH "
  99 IF l=1 THEN LET s=s+1: LET
l=Ø
 1ØØ GO TO 2Ø
 11Ø IF m$<>" B " THEN GO TO 2Ø
 111 LET m$=" A "
 112 LET sc=sc+5
 115 FOR n=19 TO a+1 STEP -1
 12Ø IF SCREEN$ (n,y)=" " THEN P
RINT AT n,y; INK 5;"D": BEEP .Ø1
,2Ø: GO TO 15
 121 IF SCREEN$ (n,y)=" " THEN G
O TO 15
 13Ø NEXT n
 14Ø GO TO 15
 2ØØ IF SCREEN$ (s,b)<>" " THEN
PRINT AT s,b;"*": BEEP .Ø1,s: PR
INT AT s,b;" ": LET sc=sc-5: LET
 s=16: RETURN
 2Ø5 PRINT AT s,b;"*": BEEP .Ø1,
s: PRINT AT s,b;" "
 21Ø LET s=s+1
 211 IF s=21 THEN GO TO 25Ø
 22Ø GO TO 2ØØ
 25Ø PRINT AT 1Ø,11; FLASH 1;"BA
D LUCK!": BEEP 1,-1Ø
 26Ø PRINT AT 12,11; INVERSE 1;"
SCORE="; FLASH 1;sc
 3ØØ FOR n=1 TO 4ØØ: NEXT n
 4ØØ CLS
 5ØØ RUN
1ØØØ PRINT AT 5,9; FLASH 1;"BRIC
K-A-BRACK"
11ØØ PRINT AT 7,3;"POINTS:"
12ØØ PRINT AT 9,1Ø;"BRICK=5 poin
ts"
13ØØ PRINT AT 11,Ø;"EVERY BRICK
DEMOLISHED=-5 points"
14ØØ PRINT ''"   EVERY SECOND LA
STED=1 point"
145Ø PRINT ''"USE CURSOR KEYS TO
 MOVE(5,6,7,8)"
146Ø PRINT ''"   USE ""Ø"" TO RE
PLACE A BRICK."
15ØØ INPUT "PRESS ENTER TO PLAY.
",o$
```

```
1600 CLS : RETURN
9999 SAVE "brick" LINE 1
```

Wimbledon

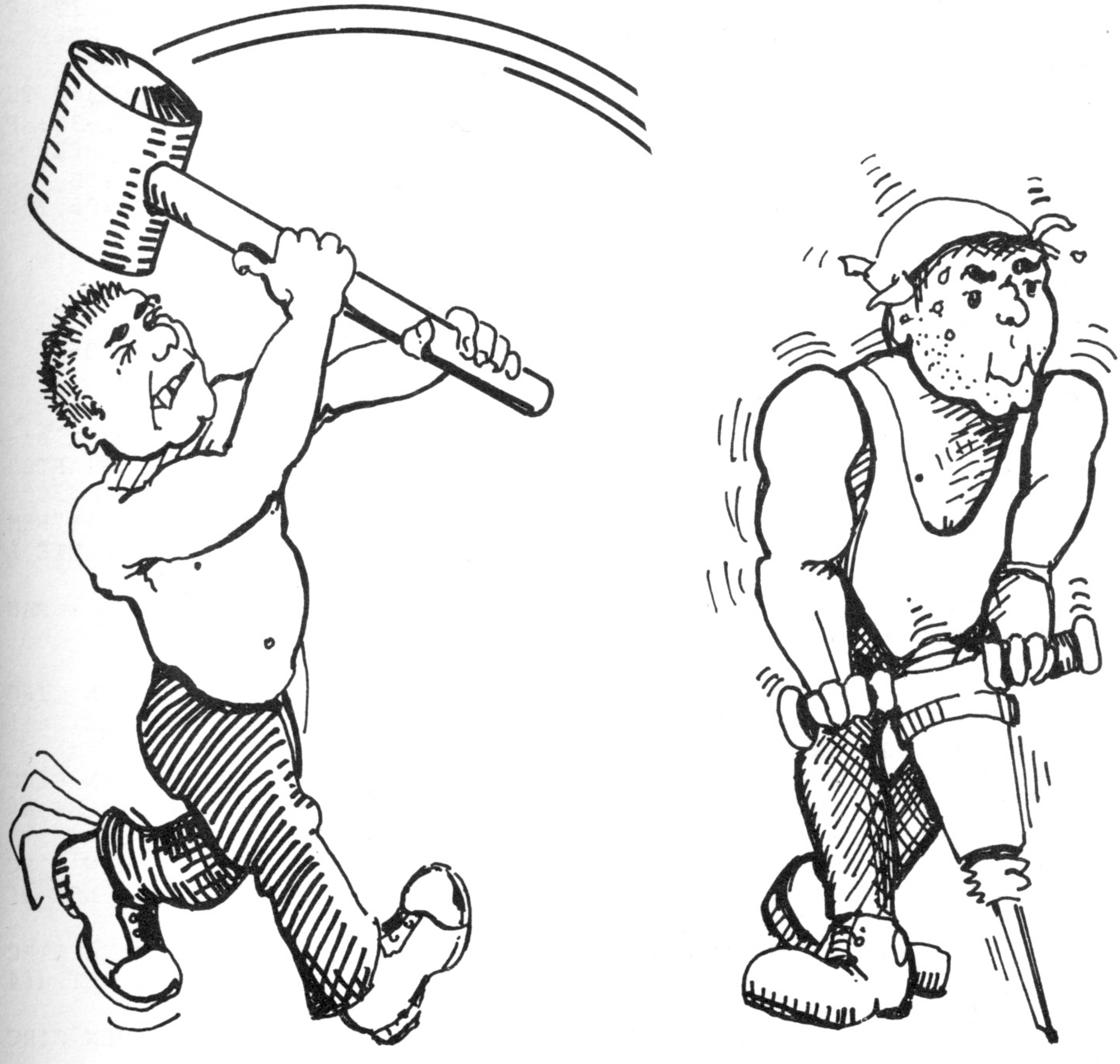
You face Mr Spec Trum on the Centre Court at Wimbledon and the first player with 10 points will be declared Grand Champion. Move up with q, down with a, right with p, and left with o. Serving is automatic. After w has been pressed all future hits will bounce upwards and after s has been pressed they will bounce downward. For the 16K or 48K Spectrum.

```
   1 BORDER Ø: PAPE
R Ø: CLS : INK 4: INPUT "what is
 your name ?"'z$
   3 INPUT "background color : "
;bc: INPUT "ink color : ";ic: CL
S
   4 PAPER bc: BORDER bc: CLS :
INK ic
   5 PRINT AT 1Ø,5;"is this ok ?
(y/n)": INPUT y$: IF CODE y$=COD
E "n" THEN GO TO 2
   6 CLS
   8 DATA "a",24,24,18,61,82,16,
1Ø4,4,"b",24,24,72,188,74,8,22,3
2,"c",Ø,24,66,66,66,66,24,Ø
   9 FOR f=1 TO 3: READ a$: FOR
g=Ø TO 7: READ a: POKE USR a$+g,
a: NEXT g: NEXT f
  1Ø LET sp=Ø: LET hu=Ø
 1ØØ LET a=1Ø: LET b=1: LET c=1Ø
: LET d=3Ø: LET lr=1: LET ud=SGN
 (INT (RND*3)-1): LET bl=INT (RN
D*18)+1: LET b2=1
 1Ø1 IF ud=Ø THEN LET ud=1
 1Ø2 LET hit=ud
 1Ø5 FOR f=Ø TO 31: PRINT AT Ø,f
;"(ig3)";AT 21,f;"(g3)": NEXT f:
 FOR f=1 TO 2Ø: PRINT AT f,15;"|
": NEXT f
 11Ø FOR f=1 TO 2Ø: PRINT AT f,Ø
;"(ig5)";AT f,5;"(g5)";AT f,25;"
(ig5)";AT f,31;"(g5)": NEXT f: F
OR f=6 TO 14: PRINT AT 11,f;"(g3
)";AT 11,f+1Ø;"(g3)": NEXT f
 121 PRINT AT 1,13;hu;AT 1,17;sp
 13Ø PRINT AT a,b; OVER 1;"A";AT
c,d;"B";AT bl,b2; OVER 1;"C"
 14Ø BEEP .1,-6Ø
 15Ø PRINT OVER 1;AT bl,b2;"C"
 151 PRINT AT c,d;" "
 155 PRINT OVER 1;AT a,b;"A"
 16Ø LET a=a-(INKEY$="q" AND a>1
)+(INKEY$="a" AND a<2Ø)
 17Ø LET b=b+(INKEY$="p" AND b<1
4)-(INKEY$="o" AND b>1)
 175 IF b2<18 THEN GO TO 186
 18Ø IF ud=1 THEN GO TO 183
 182 LET c=c-((bl-(3Ø-b2)<c) AND
c>1)+((bl-(3Ø-b2)>c) AND c<2Ø)
 183 IF ud=-1 THEN GO TO 186
 185 LET c=c-((bl+(3Ø-b2)<c) AND
 c>1)+((bl+(3Ø-b2)>c) AND c<2Ø)
 187 IF INKEY$="w" THEN LET hit=
-1
 188 IF INKEY$="s" THEN LET hit=
1
 19Ø LET bl=bl+ud
 195 LET b2=b2+lr
 2ØØ IF bl>2Ø THEN LET ud=-1: LE
T bl=19
 2Ø5 IF bl<1 THEN LET ud=1: LET
bl=2
 21Ø IF b2=3Ø THEN GO TO 22Ø
 219 GO TO 23Ø
 22Ø IF c=bl THEN LET lr=-1: LET
 ud=INT (RND*3)-1: BEEP .1,2Ø: G
O TO 211
 221 PRINT AT bl,27; FLASH 1;"OU
T!";AT 11,1Ø;"point to ";z$: LET
 hu=hu+1: FOR f=1 TO 3: BEEP .5,
3Ø: BEEP .2,1Ø: NEXT f: PAUSE 1Ø
Ø
 222 IF hu<1Ø THEN CLS : GO TO 1
ØØ
 225 GO TO 1ØØØ: REM human win
 23Ø IF b2=b THEN GO TO 24Ø
 231 IF b2<1 THEN GO TO 242
 235 GO TO 25Ø
 24Ø IF bl=a THEN LET lr=1: LET
ud=hit: BEEP .1,2Ø: GO TO 231
 241 IF b2>1 THEN GO TO 231
 242 IF b2<=1 THEN PRINT AT bl,1
; FLASH 1;"OUT!";AT 11,5;"point
to Mr.Spec Trum": LET sp=sp+1: F
OR f=1 TO 3: BEEP .2,Ø: BEEP .5,
1Ø: NEXT f: PAUSE 1ØØ
 243 IF sp<1Ø THEN CLS : GO TO 1
ØØ
 245 GO TO 2ØØØ: REM speccy win
 3ØØ GO TO 13Ø
1ØØØ REM human win
1ØØ1 PRINT AT Ø,Ø;
1Ø1Ø FOR f=1 TO 8: FOR g=Ø TO 21
: PRINT OVER 1;"(32*isp)": NEXT
g: PRINT AT Ø,Ø;: NEXT f
1Ø15 CLS
1Ø2Ø PRINT AT Ø,8;"Wimbledon";AT
 1,8;"(9*g3)";AT 5,Ø;" You have
beaten me.";AT 1Ø,1Ø; BRIGHT 1;
FLASH 1;"WELL DONE !!!";AT 2Ø,Ø;
```

```
 FLASH Ø; BRIGHT Ø;"press any ke
y to play again....."
1Ø3Ø IF INKEY$="" THEN GO TO 1Ø3
Ø
1Ø4Ø IF INKEY$<>"" THEN GO TO 1Ø
4Ø
1Ø5Ø RUN
2ØØØ REM speccy win
2ØØ1 PRINT AT Ø,Ø;
2Ø1Ø FOR f=1 TO 22: PRINT "(32*i
sp)": NEXT f
2Ø2Ø PRINT AT 1Ø,1Ø; FLASH 1;"i
win"
2Ø3Ø PRINT AT 21,Ø;"press any ke
y for another go"
2Ø4Ø IF INKEY$="" THEN GO TO 2Ø4
Ø
2Ø5Ø IF INKEY$<>"" THEN GO TO 2Ø
5Ø
```

Hard Lines

HARD LINES is for the 48K Spectrum, and is an interesting variation on the other noughts and crosses program. Here the idea is to avoid either you or the computer forming a line. If no line is completed you win the game; if not, the computer wins.



```
  10 POKE 23659,2: CLEAR 32767:
BORDER 0: PAPER 7: INK 0: BRIGHT
 1: CLS : GO SUB 1000
  20 LET cs=0: LET ys=0
  30 DIM a(9): LET p=INT (RND*6)
+1
  50 FOR i=2 TO 20: BEEP .03,300
/(i+5): PRINT PAPER p;AT i,0;"
      ";AT i,25;"       ": NEXT i
  60 PRINT PAPER p;AT 1,0;"
                                ";AT
20,0;"
     "
  70 PLOT 104,160: DRAW 0,-144:
PLOT 152,160: DRAW 0,-144: PLOT
56,112: DRAW 144,0: PLOT 56,64:
DRAW 144,0
  80 PRINT OVER 1;AT 2,7;"7
8      9";AT 8,7;"4      5      6";
AT 14,7;"1      2      3"
  90 LET r=INT (RND*2): IF r=0 T
HEN GO TO 340
 100 PRINT AT 0,0;"YOU ARE X's:-
          "; FLASH 1;"YOU START"
: GO TO 170
 110 GO SUB 470
 120 FOR i=1 TO 9
 130 IF a(i)=0 THEN GO TO 160
 140 NEXT i
 150 GO TO 840
 160 PRINT AT 0,13;"            ";
 FLASH 1;"YOUR MOVE"
 170 PRINT AT 21,0;"PRESS No. OF
 SQUARE YOU REQUIRE ": PAUSE 0
 180 IF INKEY$="1" AND a(1)=0 TH
EN PLOT 96,56: DRAW -32,-32: PLO
T 64,56: DRAW 32,-32: BEEP .05,1
0: LET a(1)=1: GO TO 290
 190 IF INKEY$="2" AND a(2)=0 TH
EN PLOT 144,56: DRAW -32,-32: PL
OT 112,56: DRAW 32,-32: BEEP .05
,10: LET a(2)=1: GO TO 290
 200 IF INKEY$="3" AND a(3)=0 TH
EN PLOT 192,56: DRAW -32,-32: PL
OT 160,56: DRAW 32,-32: BEEP .05
,10: LET a(3)=1: GO TO 290
 210 IF INKEY$="4" AND a(4)=0 TH
EN PLOT 96,104: DRAW -32,-32: PL
OT 64,104: DRAW 32,-32: BEEP .05
,10: LET a(4)=1: GO TO 290
 220 IF INKEY$="5" AND a(5)=0 TH
EN PLOT 144,104: DRAW -32,-32: P
LOT 112,104: DRAW 32,-32: BEEP .
05,10: LET a(5)=1: GO TO 290
 230 IF INKEY$="6" AND a(6)=0 TH
EN PLOT 192,104: DRAW -32,-32: P
LOT 160,104: DRAW 32,-32: BEEP .
05,10: LET a(6)=1: GO TO 290
 240 IF INKEY$="7" AND a(7)=0 TH
EN PLOT 96,152: DRAW -32,-32: PL
OT 64,152: DRAW 32,-32: BEEP .05
,10: LET a(7)=1: GO TO 290
 250 IF INKEY$="8" AND a(8)=0 TH
EN PLOT 144,152: DRAW -32,-32: P
LOT 112,152: DRAW 32,-32: BEEP .
05,10: LET a(8)=1: GO TO 290
 260 IF INKEY$="9" AND a(9)=0 TH
EN PLOT 192,152: DRAW -32,-32: P
LOT 160,152: DRAW 32,-32: BEEP .
05,10: LET a(9)=1: GO TO 290
 270 FOR f=1 TO 10: BEEP .05,20:
 BEEP .05,0: NEXT f
 280 GO TO 160
 290 GO SUB 470
 300 FOR i=1 TO 9
 310 IF a(i)=0 THEN GO TO 350
 320 NEXT i
 330 GO TO 840
 340 PRINT AT 0,0;"YOU ARE X's:-
"; FLASH 1;"THE COMPUTER STARTS"
; FLASH 0: PAUSE 150: GO TO 360
 350 PRINT AT 21,0; FLASH 1;"REM
EMBER"; FLASH 0;"   A COMPLETE L
INE LOSES": PRINT AT 0,13;"
"; FLASH 1;"COMPUTERS MOVE": PAU
SE 100
 360 LET s=INT (RND*9)+1
 370 IF s=1 AND a(1)=0 THEN CIRC
LE 80,40,16: BEEP .05,5: LET a(1
)=2: GO TO 110
 380 IF s=2 AND a(2)=0 THEN CIRC
LE 128,40,16: BEEP .05,5: LET a(
2)=2: GO TO 110
 390 IF s=3 AND a(3)=0 THEN CIRC
LE 176,40,16: BEEP .05,5: LET a(
3)=2: GO TO 110
 400 IF s=4 AND a(4)=0 THEN CIRC
LE 80,88,16: BEEP .05,5: LET a(4
)=2: GO TO 110
 410 IF s=5 AND a(5)=0 THEN CIRC
```

```
LE 128,136,16: BEEP .Ø5,5: LET a
(8)=2: GO TO 11Ø
 45Ø IF s=9 AND a(9)=Ø THEN CIRC
LE 176,136,16: BEEP .Ø5,5: LET a
(9)=2: GO TO 11Ø
 46Ø GO TO 36Ø
 47Ø IF a(7)=a(8) AND a(7)=a(9)
AND a(7)<>Ø THEN PLOT 56,136: DR
AW 144,Ø: PAUSE 15: GO TO 49Ø
 48Ø GO TO 51Ø
 49Ø IF a(7)=1 THEN GO TO 8ØØ
 5ØØ IF a(7)=2 THEN GO TO 82Ø
 51Ø IF a(4)=a(5) AND a(4)=a(6)
AND a(4)<>Ø THEN PLOT 56,88: DRA
W 144,Ø: PAUSE 15: GO TO 53Ø
 52Ø GO TO 55Ø
 53Ø IF a(4)=1 THEN GO TO 8ØØ
 54Ø IF a(4)=2 THEN GO TO 82Ø
 55Ø IF a(1)=a(2) AND a(1)=a(3)
AND a(1)<>Ø THEN PLOT 56,4Ø: DRA
W 144,Ø: PAUSE 15: GO TO 57Ø
 56Ø GO TO 59Ø
 57Ø IF a(1)=1 THEN GO TO 8ØØ
 58Ø IF a(1)=2 THEN GO TO 82Ø
 59Ø IF a(1)=a(4) AND a(1)=a(7)
AND a(1)<>Ø THEN PLOT 8Ø,16Ø: DR
AW Ø,-144: PAUSE 15: GO TO 61Ø
 6ØØ GO TO 63Ø
 61Ø IF a(1)=1 THEN GO TO 8ØØ
 62Ø IF a(1)=2 THEN GO TO 82Ø
 63Ø IF a(2)=a(5) AND a(2)=a(8)
AND a(2)<>Ø THEN PLOT 128,16Ø: D
RAW Ø,-144: PAUSE 15: GO TO 65Ø
 64Ø GO TO 67Ø
 65Ø IF a(2)=1 THEN GO TO 8ØØ
 66Ø IF a(2)=2 THEN GO TO 82Ø
 67Ø IF a(3)=a(6) AND a(3)=a(9)
AND a(3)<>Ø THEN PLOT 176,16Ø: D
RAW Ø,-144: PAUSE 15: GO TO 69Ø
 68Ø GO TO 71Ø
 69Ø IF a(3)=1 THEN GO TO 8ØØ
 7ØØ IF a(3)=2 THEN GO TO 82Ø
 71Ø IF a(3)=a(5) AND a(3)=a(7)
AND a(3)<>Ø THEN PLOT 6Ø,156: DR
AW 136,-136: PAUSE 15: GO TO 73Ø
 72Ø GO TO 75Ø
 73Ø IF a(3)=1 THEN GO TO 8ØØ
 74Ø IF a(3)=2 THEN GO TO 82Ø
 75Ø IF a(1)=a(5) AND a(1)=a(9)
AND a(1)<>Ø THEN PLOT 196,156: D
RAW -136,-136: PAUSE 15: GO TO 7
7Ø
 76Ø GO TO 79Ø
 77Ø IF a(1)=1 THEN GO TO 8ØØ
 78Ø IF a(1)=2 THEN GO TO 82Ø
 79Ø RETURN
 8ØØ PRINT AT 21,Ø;"  A LINE OF
'X's:-   "; FLASH 1;"YOU LOSE"; F
LASH Ø;"     ": BEEP 1,-1Ø: LET c
s=cs+1: GO TO 87Ø
 81Ø BEEP 1,-1Ø: LET cs=cs+1: GO
 TO 87Ø
 82Ø PRINT AT 21,Ø;"  A LINE OF
'O's:-   "; FLASH 1;"YOU LOSE"; F
LASH Ø;"     "
 83Ø BEEP 1,-1Ø: LET cs=cs+1: GO
 TO 87Ø
 84Ø PRINT AT 21,Ø;" CONGRATULAT
IONS:-    "; FLASH 1;"YOU WIN"; F
LASH Ø;"     "
 85Ø FOR i=1 TO 24: BEEP .Ø3,i*2
: NEXT i
 86Ø LET ys=ys+1: GO TO 87Ø
 87Ø IF cs=5 THEN PRINT AT Ø,Ø;
FLASH 1;" HARD-LINES! THE COMPUT
ER WINS  ": BEEP 1,1Ø: BEEP 1,5:
 BEEP 1,Ø: BEEP 2,-1Ø: LET cs=Ø:
 LET ys=Ø: GO TO 97Ø
 88Ø IF ys=5 THEN PRINT AT Ø,Ø;
FLASH 1;"  YOU HAVE BEATEN THE C
OMPUTER! ": GO TO 9ØØ
 89Ø GO TO 95Ø
 9ØØ FOR a=1 TO 4
 91Ø FOR i=Ø TO 2Ø STEP 3: BEEP
.Ø5,i: NEXT i
 92Ø NEXT a
 93Ø FOR b=1 TO 25 STEP 1: BEEP
.Ø5,b: NEXT b
 94Ø LET cs=Ø: LET ys=Ø: GO TO 9
7Ø
 95Ø PRINT AT Ø,Ø;" COMPUTER SCO
RE:";cs;TAB 19;"YOUR SCORE:";ys;
TAB 31;" "
 96Ø PAUSE 1Ø: POKE 23659,1: PRI
NT AT 22,Ø;"PRESS ANY KEY TO CON
TINUE GAME  ": PAUSE Ø: POKE 236
59,2: CLS : GO TO 3Ø
 97Ø PAUSE 1ØØ: POKE 23659,1: PR
```

```
INT AT 22,Ø;"DO YOU WANT TO PLAY
 AGAIN: (Y/N)": PAUSE Ø: POKE 23
659,2
 98Ø IF INKEY$<>"n" THEN CLS : G
O TO 3Ø
 99Ø STOP
1ØØØ PRINT AT 1,11; PAPER 2; INK
 6;"""HARD-LINES"""
1Ø1Ø PRINT ''" The object of the
 game is to     fill all nine squ
ares without    completing a line
 of either      O's or X's."
1Ø2Ø PRINT ''" Each time you win
 a round you    score 1 point. To
 win the game   you must reach 5
points before   the computer."
1Ø3Ø PRINT ''" You print the X's
 and the start is decided at ran
dom."
1Ø4Ø PRINT AT 21,Ø; FLASH 1;"PRE
SS"; FLASH Ø;" ANY KEY TO START
THE GAME": PAUSE Ø: CLS : RETURN
```

Apple Thief

You are an APPLE THIEF prowling around an orchard collecting as many apples as possible before the irate farmer catches you. You and the farmer can move horizontally, vertically and diagonally. You have an advantage over the farmer because you are small enough to crawl under the fence. Also if you eat one of the magic apples you gain a life. For the 16K Spectrum.

```
   3 LET LI=4: LET SC=Ø: LET LL=
1: INPUT "ENTER LEVEL 1 OR 2(2 =
INVISIBLE APPLES!!>";LE: IF LE<>
1 AND LE<>2 THEN GO TO 3
  1Ø LET Z=1: LET B$="AB": DIM A
$(2Ø,3Ø): FOR N=1 TO 2Ø: LET A$(
N)="DDDDDDDDDDDDDDDDDDDDDDDDDDDD
DD": NEXT N
  2Ø LET A=2Ø: LET B=3Ø: LET HP=
3: LET X=1: LET Y=1: LET CC=Ø: P
RINT AT Ø,3; INK 4;"SCORE>";SC;A
T Ø,13;"JUMPS>";HP;AT Ø,21;"LIVE
S>";LI
  3Ø IF LE=1 THEN PRINT AT 1,Ø;:
 FOR N=1 TO 2Ø: PRINT AT N,1; IN
K 2;A$(N): NEXT N
  35 FOR N=1 TO 21: PRINT AT N,Ø
; INK LL;"(isp)": BEEP .Ø1,N: PR
INT AT 22-N,31; INK LL;"(isp)":
BEEP .Ø1,22-N: NEXT N: FOR N=Ø T
O 16: PRINT AT 21,N; INK LL;"(is
p)": BEEP .Ø1,N: PRINT AT 21,31-
N; INK LL;"(isp)": BEEP .Ø1,31-N
: NEXT N
  4Ø IF LE=1 THEN PRINT AT X,Y;
INK 2;A$(X,Y)
  41 IF LE=2 THEN PRINT AT X,Y;"
 "
  45 LET X=X-(IN 61438=243 OR IN
 61438=247)+(IN 61438=239 OR IN
61438=235): LET Y=Y+(IN 61438=25
1 OR IN 61438=243 OR IN 61438=23
5)-(IN 63486=239)
  5Ø IF X=Ø THEN LET X=2Ø
  6Ø IF Y=Ø THEN LET Y=3Ø
  7Ø IF X=21 THEN LET X=1
  8Ø IF Y=31 THEN LET Y=1
  85 IF ATTR (X,Y)=6Ø THEN LET L
I=LI+1: PRINT AT Ø,27; INK 4;LI
  9Ø IF A$(X,Y)="D" THEN LET A$(
X,Y)=" ": BEEP .ØØ1,2Ø: LET CC=C
C+1: LET SC=SC+1: PRINT AT X,Y;B
$(Z);AT Ø,9; INK 4;SC
  95 PRINT AT X,Y;B$(Z);AT Ø,9;
INK 4;SC
  97 IF LE=1 THEN PRINT AT A,B;
INK 2;A$(A,B)
  98 IF LE=2 THEN PRINT AT A,B;"
 "
 1ØØ LET A=A+(A<X)-(A>X): LET B=
B+(B<Y)-(B>Y): PRINT AT A,B; INK
 1;"C"
 11Ø LET Z=Z+1: IF Z=3 THEN LET
Z=1
 12Ø IF A=X AND B=Y THEN GO TO 1
8Ø
 13Ø IF CC=6ØØ THEN GO TO 17Ø
 14Ø IF INKEY$="9" AND HP>Ø THEN
 GO TO 16Ø
 145 IF RND>=.99 THEN PRINT AT I
NT (RND*2Ø)+1,INT (RND*3Ø)+1; IN
K 4;"D"
 15Ø GO TO 4Ø
 16Ø PRINT AT X,Y;A$(X,Y): BEEP
.1,5: BEEP .1,1Ø: LET X=INT (RND
*2Ø)+1: LET Y=INT (RND*3Ø)+1: PR
INT AT X,Y; INK 1; FLASH 1;"?":
FOR N=1 TO 22Ø: NEXT N: LET HP=H
P-1: PRINT AT Ø,19; INK 4;HP: GO
 TO 4Ø
 17Ø FOR N=1 TO 5Ø: BEEP .Ø1,N:
BEEP .Ø1,5Ø-N: NEXT N: LET LL=LL
+1: GO TO 1Ø
 18Ø IF LI>Ø THEN LET LI=LI-1: L
ET X=1: LET Y=1: PRINT INK 4;AT
Ø,21;"LIVES>";LI: BEEP .5,-5: BE
EP .5,-1Ø: GO TO 4Ø
 19Ø FOR N=5Ø TO 1 STEP -1: BEEP
 .1,N: BEEP .Ø1,5Ø-N: NEXT N
 2ØØ PRINT AT 11,9; INK 2; FLASH
 1;"Ha Ha Too Slow";AT 12,9;"Ha
Ha Too Slow": PAUSE Ø: PAUSE Ø:
RUN
 7ØØ CLS : FOR N=Ø TO 7: READ A:
 POKE USR "A"+N,A: NEXT N: DATA
Ø,6Ø,9Ø,255,129,66,6Ø,Ø
 71Ø FOR N=Ø TO 7: READ A: POKE
USR "B"+N,A: NEXT N: DATA Ø,6Ø,9
Ø,255,255,66,6Ø,Ø
 72Ø FOR N=Ø TO 7: READ A: POKE
USR "C"+N,A: NEXT N: DATA Ø,6Ø,1
65,231,6Ø,36,36,1Ø2
 73Ø FOR N=Ø TO 7: READ A: POKE
USR "D"+N,A: NEXT N: DATA 16,8,4
2,127,127,127,62,28
 74Ø LET C$="YOU ARE IN CONTROL
OF AN APPLE   THIEF.YOU HAVE INVA
DED FARMER    BUMPKIN'S ORCHARD.Y
OU ARE NOW    CHOMPING YOUR WAY R
OUND THIS     ORCHARD WHILST THE
```

```
FARMER IS   CHASING YOU.HOW MAN
Y APPLES CAN YOU CHOMP?"
 750 LET I=1
 755 FOR N=1 TO LEN C$
 760 PRINT AT 0,11; INK I/2;"APP
LE THIEF"; INK I;AT 2,0;C$( TO N
): LET I=I+1
 770 IF I=7 THEN LET I=1:
 780 NEXT N
 790 PRINT '"A<<CHOMPER"' INK 1;
"C<<ANGRY FARMER"' INK 2;"D<<APP
LE"
 800 PRINT INK 3;"9<<JUMP"' INK
2;"8<<RIGHT"' INK 3;"5<<LEFT"' I
NK 2;"6<<DOWN"' INK 3;"7<<UP"' I
NK 4;"ANY COMBINATION OF KEYS WI
LL    MOVE YOU DIAGONALLY"
 810 PRINT TAB 5; INK 1; FLASH 1
;"PRESS ANY KEY TO CONT"
 815 PAUSE 0: PAUSE 0
 820 CLS : LET C$="OCCASIONALLY
A MAGIC APPLE WILL APPEAR IF EAT
EN AN EXTRA LIFE   WILL BE GIVEN
.ALSO YOU CAN CRAWLUNDER THE FEN
CE!!"
 830 LET I=1
 840 FOR N=1 TO LEN C$: PRINT AT
 0,11; INK I/2;"APPLE THIEF";AT
2,0; INK I;C$( TO N): LET I=I+1
 850 IF I=7 THEN LET I=1
 860 NEXT N
 870 PRINT ' INK 1;"(isp)<<FENCE
"' INK 4;"D<<MAGIC APPLE"
 880 PRINT ' FLASH 1;"PRESS ANY
KEY TO PLAY"
 890 PRINT ' INK 3;"PS THE SOUND
 IS BETTER WHEN IT  IS AMPLIFIED
!"
 900 PAUSE 0: PAUSE 0: RUN
9999 CLEAR : RESTORE : CLS : BOR
DER 5: PRINT "SAVE": SAVE "APPLE
THIEF" LINE 700: BEEP 1,0: BORDE
R 2: PRINT "VERIFY";: VERIFY "AP
PLETHIEF": BEEP 1,10: PRINT "OKA
Y": PAUSE 200: BORDER 7: GO TO 7
00
```

Poker

This is a version of the arcade POKER routine. You are given 20 credits and you must bet whatever you dare. Your cards are dealt and you can hit keys 1 to 5 to change them. Key 8 will deal an entire new hand. You are playing not against the computer but against certain fixed odds which are displayed at the start of the program.

Full instructions are given and the program includes the same sleepy eyed fascination as a fruit machine (16K Spectrum).

Graphics notes: 73 – graphic A; graphic B; graphic C; graphic D.

```
   1 PAPER 7: BORDER 7: INK Ø: C
LS
   2 LET go=Ø
   5 FOR p=1 TO 4: READ a$: FOR
n=Ø TO 7
  1Ø READ m: POKE USR a$+n,m
  15 NEXT n: NEXT p
  2Ø DATA "a",Ø,16,56,124,254,12
4,56,16
  25 DATA "b",Ø,56,56,16,214,254
,214,16
  3Ø DATA "c",Ø,1Ø8,254,254,124,
124,56,16
  35 DATA "d",Ø,16,56,124,254,25
4,214,16
  4Ø PRINT AT 1,9;" P O K E R "
  42 PRINT AT 4,Ø;"  The compute
r will deal you a"'"five card PO
KER hand and you"'"delete as man
y cards as you wish"'"in an atte
mpt to obtain a good"'"winning h
and."
  44 PRINT AT 1Ø,Ø;"  The comput
er gives you 2Ø"'"credits to sta
rt with and you"'"bet (LIMIT 1Ø
credits) before"'"each hand is d
ealt"
  46 GO SUB 14ØØ
  49 CLS : PRINT AT 2,Ø;"  Winni
ng hands are paid:-";AT 4,5;"2 P
AIR     -- Evens";AT 5,5;"3 OF
     -- 2/1";AT 6,5;"RUN
-- 4/1";AT 7,5;"FLUSH        -- 5/
1"
  5Ø PRINT AT 8,5;"FULL HOUSE --
 9/1";AT 9,5;"POKER        -- 14/1
";AT 1Ø,5;"ST FLUSH   -- 2Ø/1";A
T 11,5;"ROYAL FLUSH-- 5Ø/1"
  56 GO SUB 14ØØ
  6Ø CLS : PRINT AT 2,Ø;"  The k
eys used are:-";AT 4,5;"Ø -- bet
 (repeat key)";AT 5,5;"9 -- deal
";AT 6,5;"8 -- draw";AT 7,5;"7 -
- stand";AT 8,5;"6 -- cancel";AT
 9,5;"1 to 5 -- delete cards"
  62 GO SUB 14ØØ
  71 DIM s$(4): DIM z$(4): DIM t
(5): DIM v(5): DIM c(5): DIM h(8
): DIM p$(8,11)
  72 FOR i=1 TO 4: READ s$(i): R
EAD z$(i): NEXT i
  73 DATA "A","A","B","K","C","Q
","D","J"
  74 FOR i=1 TO 8: READ h(i): NE
XT i: DATA 1,2,4,5,9,14,2Ø,5Ø
  75 FOR i=1 TO 8: READ p$(i): N
EXT i: DATA "2 PAIR","3 OF","RUN
","FLUSH","FULL HOUSE","POKER","
ST FLUSH","ROYAL FLUSH"
  76 LET credit=2Ø: LET bet=Ø
  77 PAPER 4: CLS : GO SUB 26ØØ
  79 IF credit=Ø THEN GO SUB 4ØØ
Ø: GO TO 76
  8Ø FOR i=1 TO 5
  85 GO SUB 1Ø1Ø
  92 NEXT i
  93 LET bet=Ø
  94 PRINT AT 2Ø,16;"
   "
  95 PRINT INK 7;AT 21,23;"
BET"
  97 LET a$=INKEY$: IF a$="Ø" TH
EN PAPER 4: CLS : GO TO 1Ø5
 1ØØ GO TO 97
 1Ø4 PRINT INK 7;AT 21,27;"DEAL"
: GO SUB 15ØØ
 1Ø5 IF a$="Ø" AND credit>Ø AND
bet<1Ø THEN LET bet=bet+1: LET c
redit=credit-1: GO SUB 26ØØ: BEE
P .1,15: GO TO 1Ø4
 111 IF a$<>"9" THEN GO TO 1Ø4
 112 LET x=Ø: LET f=7: FOR p=1 T
O 13 STEP 3: GO SUB 5ØØ: GO SUB
559: NEXT p: PRINT INK 7;AT 2Ø,1
8;"DELETE & DRAW";AT 21,23;"OR S
TAND": LET set=1: GO SUB 3ØØØ: L
ET set=Ø
 115 GO SUB 15ØØ
 117 IF a$="7" THEN GO SUB 3ØØØ:
 GO TO 79
 118 IF a$="8" THEN PAPER 4: CLS
 : GO SUB 26ØØ: FOR i=1 TO 5: GO
 SUB 1Ø1Ø: NEXT i: LET x=Ø: FOR
p=1 TO 13 STEP 3: GO SUB 5ØØ: GO
 SUB 559: NEXT p: GO SUB 3ØØØ: G
O TO 79
 119 GO SUB 2ØØØ
 12Ø GO SUB 15ØØ
 121 IF a$="8" AND l=1 THEN GO T
O 118
```

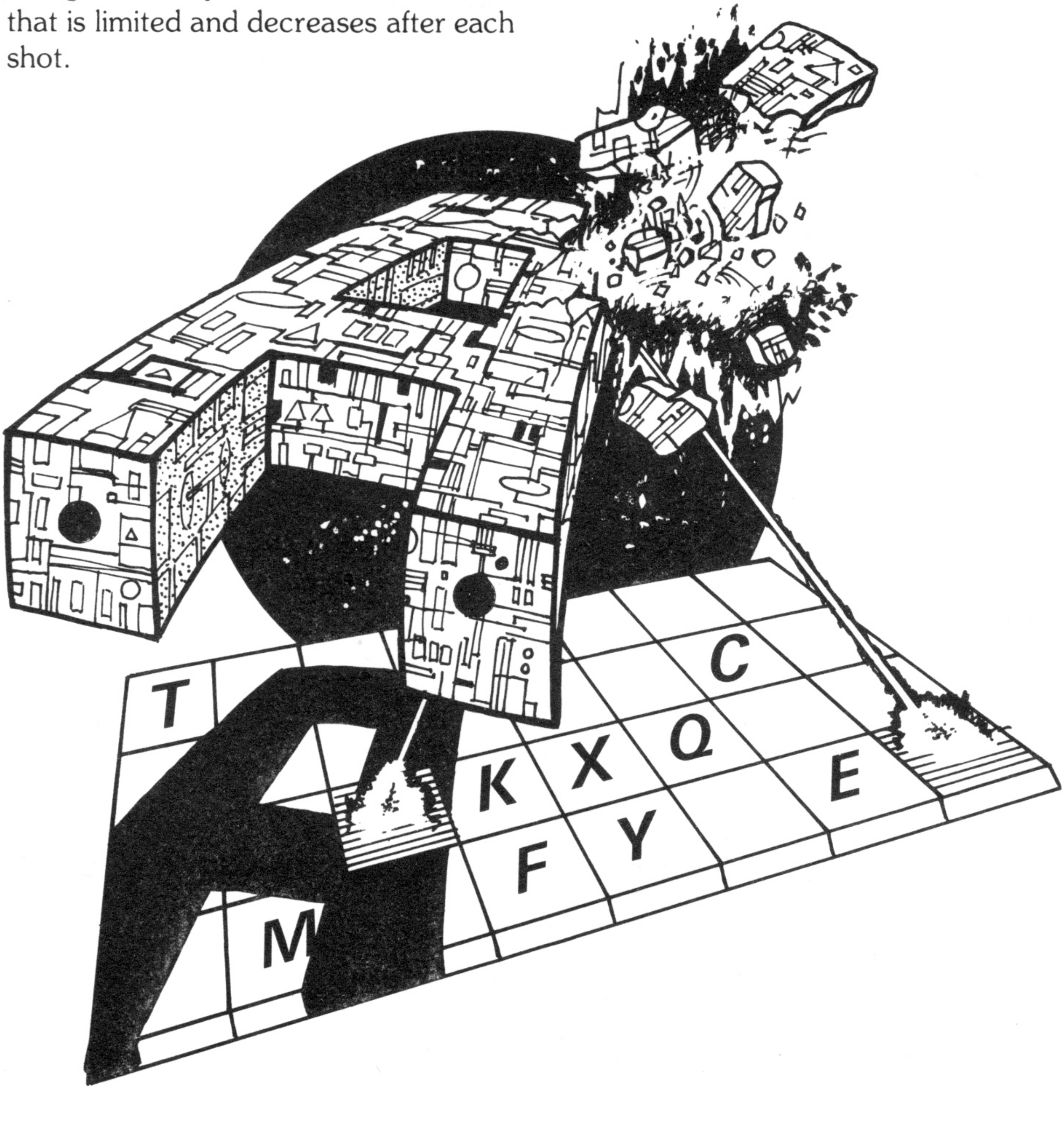
```
 122 IF a$<>"8" THEN GO TO 127
 123 GO SUB 1700: GO SUB 2500: G
O SUB 3000
 126 GO TO 79
 127 IF a$="6" AND l=0 THEN GO S
UB 2500: GO SUB 2000
 128 FOR i=1 TO 5
 129 IF a$=STR$ i THEN LET l=0:
LET j(i)=1: LET f=4: LET p=3*i-2
: GO SUB 500: GO TO 120
 130 NEXT i
 135 GO TO 120
 500 FOR m=2 TO 9
 520 FOR q=0 TO 4
 530 PRINT PAPER f;AT m,2*p+q;"
"
 540 NEXT q: NEXT m
 550 RETURN
 559 LET x=x+1
 560 IF v(x)<=9 THEN PRINT PAPER
 7;AT 2,2*p;v(x)+1
 570 IF v(x)>=10 THEN PRINT PAPE
R 7;AT 2,2*p;z$(14-v(x))
 575 IF t(x)=1 OR t(x)=3 THEN LE
T z=2
 576 IF t(x)=2 OR t(x)=4 THEN LE
T z=0
 580 PRINT PAPER 7; INK z;AT 3,2
*p;s$(t(x))
 585 BEEP .05,5
 590 RETURN
1010 LET c(i)=INT (RND*52)+1
1020 IF i=1 THEN GO TO 1050
1030 FOR m=1 TO i-1: IF c(i)=c(m
) THEN GO TO 1010
1040 NEXT m
1050 LET t(i)=INT ((c(i)-1)/13)+
1
1060 LET v(i)=c(i)-(t(i)-1)*13
1070 RETURN
1400 PRINT AT 21,2; FLASH 1;"Pre
ss any key to continue"
1500 LET a$=INKEY$: IF a$="" THE
N GO TO 1500
1505 RETURN
1700 FOR i=1 TO 5: IF j(i)=0 THE
N GO TO 1705
1701 LET c(i)=INT (RND*52)+1
1702 FOR m=1 TO 5: IF i=m THEN G
O TO 1704
1703 IF c(i)=c(m) THEN GO TO 170
0
1704 NEXT m: GO SUB 1050
1705 NEXT i: RETURN
2000 DIM j(5): LET l=1
2001 RETURN
2500 FOR i=1 TO 5: IF j(i)=0 THE
N GO TO 2502
2501 LET f=7: LET p=3*i-2: LET x
=i-1: GO SUB 500: GO SUB 559
2502 NEXT i
2503 RETURN
2600 PRINT INK 7;AT 0,0;"CREDITS
";TAB 28;"BET"
2601 PRINT INK 7;AT 1,4;credit;T
AB 28;bet
2610 RETURN
3000 DIM n(13): DIM e(4): DIM r(
9): LET r(1)=-1: LET s=0
3002 FOR i=1 TO 5: LET n(v(i))=n
(v(i))+1: LET e(t(i))=e(t(i))+1:
 NEXT i
3005 FOR i=1 TO 13
3010 IF n(i)=2 THEN LET r(1)=r(1
)+1
3020 IF n(i)=3 THEN LET r(2)=1
3025 IF n(i)=4 THEN LET r(6)=1
3030 NEXT i
3040 FOR i=1 TO 13
3045 IF n(i)<>1 THEN GO TO 3060
3050 LET s=s+1: IF s=5 THEN GO T
O 3065
3052 IF i=4 AND s=4 AND n(13)=1
THEN GO TO 3065
3055 NEXT i
3060 LET s=0: NEXT i: GO TO 3080
3065 LET r(3)=1
3070 IF s=5 AND i=13 THEN LET r(
9)=1
3080 IF r(2)=1 AND r(1)=0 THEN L
ET r(5)=1
3090 FOR i=1 TO 4: IF e(i)=5 THE
N LET r(4)=1
3100 NEXT i
3110 IF r(3)=1 AND r(4)=1 THEN L
ET r(7)=1
3120 IF r(9)=1 AND r(4)=1 THEN L
ET r(8)=1
3130 FOR i=8 TO 1 STEP -1
3140 IF r(i)=1 THEN GO TO 3160
```

```
3150 NEXT i: RETURN
3160 PRINT FLASH 1; INK 7;AT 13,
12;"WINNER"
3163 PRINT INK 7;AT 15,12;p$(i)
3165 IF set=1 THEN RETURN
3170 LET win=h(i)*bet+bet
3180 FOR i=1 TO win
3190 LET credit=credit+1: PRINT
INK 7;AT 1,4;credit: BEEP .2,15:
 PAUSE 30
3200 NEXT i: RETURN
4000 PAUSE 100: PAPER 7: CLS : L
ET go=go+1: PRINT AT 11,2;"You h
ave run out of credits";AT 12,3;
"Do you wish to play again?";AT
13,11;"(Y or N)"
4001 INPUT a$: IF a$="Y" OR a$="
y" THEN RETURN
4002 CLS : PRINT AT 11,0;"You ha
ve lost ";go*20;" money units";A
T 12,4; FLASH 1;"THANK YOU FOR P
LAYING": STOP
```

Alpha Attack

A string of random characters is printed at the top of the screen and one of them also appears at the bottom. Using the Keys 'Q'-left, 'E'-right, and 'P'-fire, you must shoot the character from the string at the top. Your time to achieve that is limited and decreases after each shot.

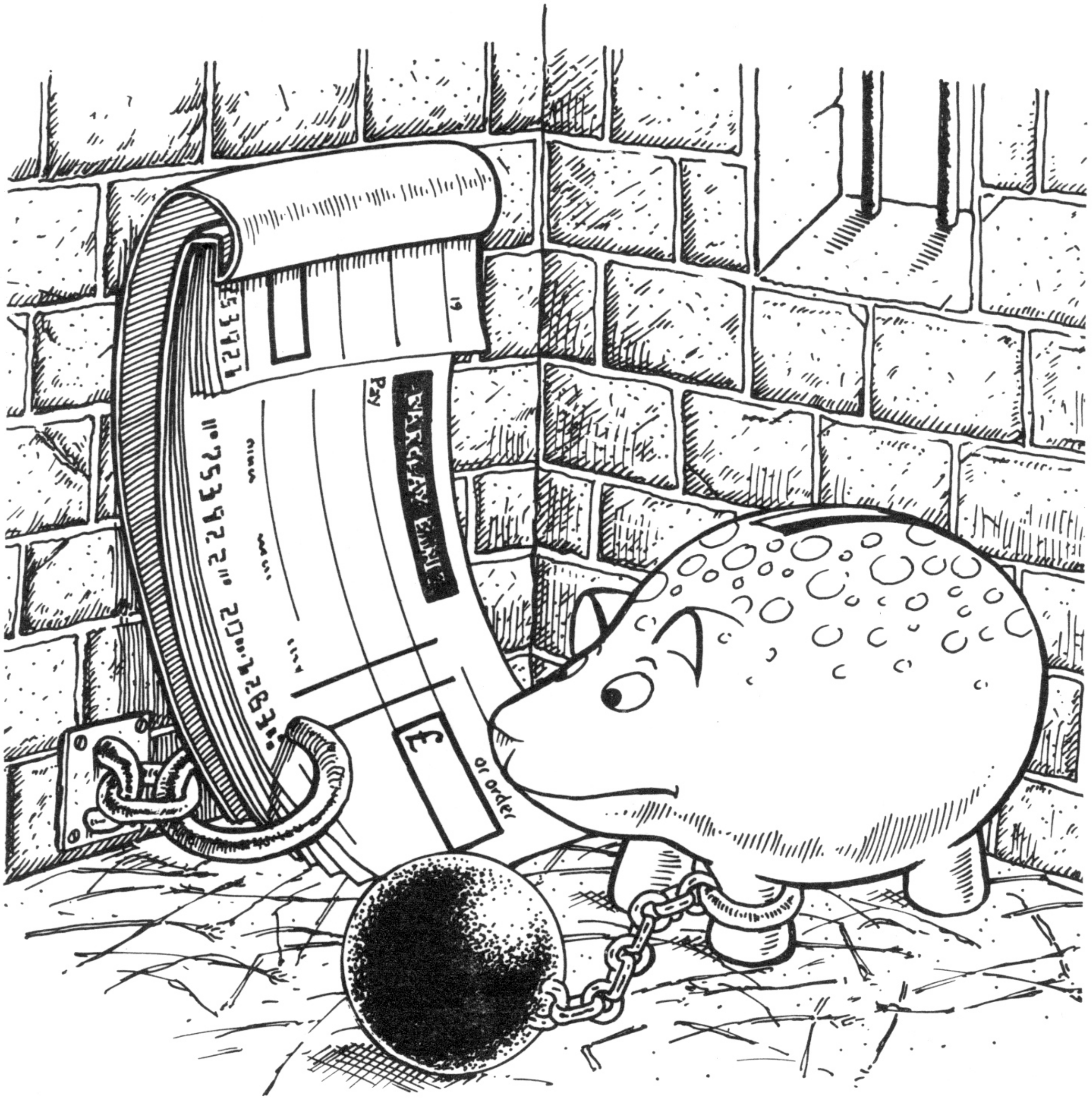
When the inverse 'X' reaches the right of the screen, your time has expired. The game ends when you miss for the third time. ALPHA ATTACK was written for the 16K Spectrum.



```
   9 PRINT AT 1Ø,1Ø;"Any key": P
AUSE Ø
  1Ø LET y=4Ø: LET j=2: LET m=Ø:
 LET s=Ø: LET l=15
  2Ø CLS
  3Ø BORDER 6: PAPER 7: INK 1
  4Ø CLS : IF m=3 THEN GO TO 5ØØ
  5Ø FOR f=3 TO 25
  6Ø PRINT AT 3,f;CHR$ ((RND*1ØØ
)+27)
  7Ø NEXT f
  75 LET y=y+2
  8Ø GO TO 18Ø
  9Ø FOR t=y TO 1ØØ
 1ØØ IF t>7Ø THEN PRINT AT 5,t-7
Ø;" (ix)"
 11Ø BEEP .ØØ9,t-4Ø
 12Ø PRINT AT 2Ø,1;" (ig6:i↑:g6)
"
 13Ø LET l=l+(INKEY$="e")-(INKEY
$="q")+(l=Ø)-(l=28)
 14Ø IF INKEY$="p" THEN BEEP .ØØ
5,1Ø: BEEP .ØØ7,3: GO TO 22Ø
 15Ø NEXT t
 16Ø BEEP 1,-5Ø
 17Ø LET m=m+1: GO TO 4Ø
 18Ø LET a$=SCREEN$ (3,INT (RND*
2Ø)+3)
 19Ø PRINT AT Ø,22;"SCORE= ";s;A
T Ø,Ø;"Misses: ";m
 2ØØ PRINT AT INT (RND*1Ø)+1Ø,IN
T (RND*3Ø);a$
 21Ø GO TO 9Ø
 22Ø FOR z=19 TO 4 STEP -1: PRIN
T AT z,l+2;"↑": NEXT z
 23Ø IF SCREEN$ (3,l+2)<>a$ THEN
 BEEP .2,-3Ø: BEEP .2,-6Ø: LET m
=m+1: GO TO 4Ø
 24Ø LET s=s+1
 25Ø BEEP .Ø1,1Ø: BEEP .Ø1,2Ø
 26Ø GO TO 4Ø
 5ØØ BEEP .7,-3Ø: BEEP .7,-6Ø: C
LS
 51Ø PRINT AT 1Ø,9; FLASH 1;" Th
ird miss ! "; FLASH Ø;AT 2,11;"S
core = ";s;AT 18,5;"Any key to p
lay again"
 52Ø PAUSE Ø
 53Ø GO TO 1Ø
```

Personal Finance

PERSONAL FINANCE allows 16K and 48K Spectrum owners to keep track of their financial situation with an effective but relatively simple program. Once it is entered you are given 5 options – entering, saving or displaying data, saving the file, or preparing a statement. Entries will be arranged in date order and a statement of income and expenditure can be obtained at any point.

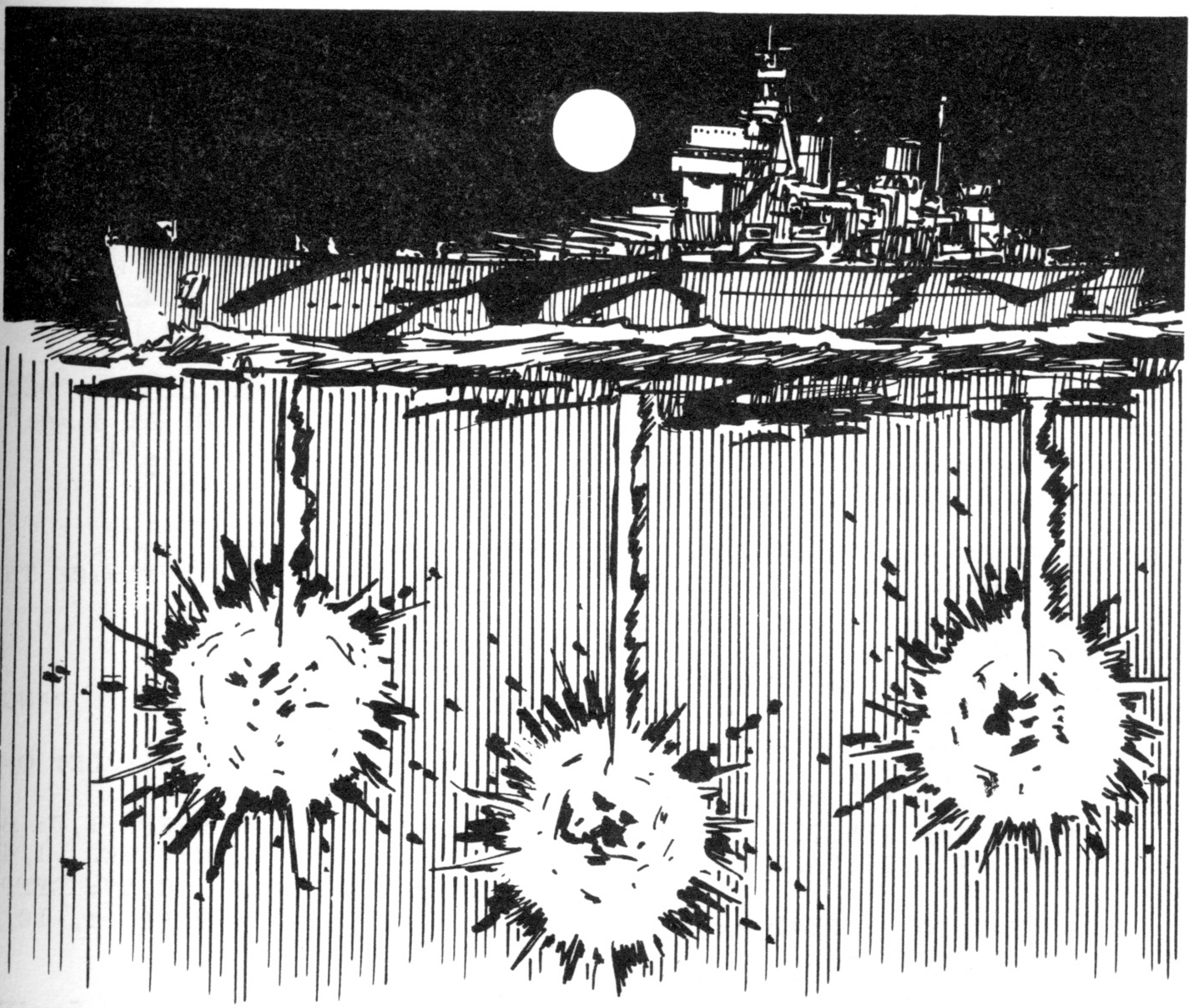


```
  10 LET n=0
  12 DIM x(150): DIM y(150): DIM
 z(150)
  15 DIM g$(1,8)
  20 DIM a$(150,8)
  30 DIM a(150)
  35 BORDER 0: PAPER 0: INK 7: C
LS
  40 PRINT "Welcome to Personal
Finance"
  55 PRINT : PRINT 150-n;" Free
Locations"
  60 PRINT : PRINT " MENU": PRIN
T " (4*g3)"
  70 PRINT
  80 PRINT
  90 PRINT "  1:Enter Data": PRI
NT : PRINT "  2:Display Data": P
RINT : PRINT "  3:Prepare Statem
ent": PRINT
  95 PRINT "  4:Save This File"
  97 PRINT : PRINT "  5:Delete d
ata"
 100 PRINT AT 21,0;"Input your c
hoice"
 110 INPUT i
 120 IF i>5 OR i<1 THEN GO TO 11
0
 125 CLS
 130 GO TO i*1000
1000 REM
1001 REM DATA ENTRY
1002 REM
1010 PRINT "Enter Data Mode"
1015 PRINT
1020 LET n=n+1
1030 IF n>=101 THEN PRINT "Out o
f memory": GO TO 35
1035 LET k=n
1040 PRINT "Input Name of item a
nd any otherdata you require (No
 more than 8chrs)"
1050 INPUT a$(k)
1060 PRINT : PRINT a$(k)
1070 PRINT : PRINT "Input amount
 of money"
1080 INPUT a(k)
1090 PRINT : PRINT "£";a(k)
1092 PRINT : PRINT "Input Date/m
onth/year": INPUT x(k): PRINT x(
k);"/";: INPUT y(k): PRINT y(k);
"/";: INPUT z(k): PRINT z(k)
1100 PRINT : PRINT "Press ~M~ fo
r MENU": PRINT "Press any other
key to change   this data"
1110 INPUT k$
1120 IF k$="m" OR k$="M" THEN GO
 TO 9000
1130 CLS : GO TO 1040
2000 REM
2001 REM DATA DISPLAY
2002 REM
2010 CLS
2020 PRINT "Data display mode"
2024 PRINT : PRINT "Press ~0~ to
 stop and start     display"
2030 PAUSE 0
2035 CLS
2060 FOR d=1 TO n
2070 PRINT a$(d);"£";x(d);"/";y(
d);"/";z(d);"  `";a(d)
2072 PRINT
2075 IF INKEY$="0" THEN PAUSE 0
2080 NEXT d
2090 PRINT : PRINT "Press any ke
y for menu"
2100 PAUSE 0
2110 GO TO 35
3000 REM
3001 REM STATEMENT MODE
3002 REM
3005 LET to=0
3010 PRINT "Statement Preparatio
n Mode"
3020 PRINT : PRINT "Last entry w
as on ";
3030 PRINT x(n);"/";y(n);"/";z(n
)
3040 PRINT : PRINT "Input Statem
ent date"
3050 INPUT vx: PRINT vx;"/";: IN
PUT vy: PRINT vy;"/";: INPUT vz:
 PRINT vz
3055 PRINT
3060 LET vd=(10000*vz)+(100*vy)+
vx
3070 FOR s=1 TO n
3080 LET vn=(10000*z(s))+(100*y(
s))+x(s)
3090 IF vn>vd THEN GO TO 3190
```

```
3100 NEXT s
3190 LET s=s-1
3200 FOR h=1 TO s
3210 PRINT a$(h);"£";x(h);"/";y(
h);"/";z(h);"  `";a(h)
3220 LET to=to+a(h)
3230 NEXT h
3240 PRINT : PRINT "Balance at£"
;vx;"/";vy;"/";vz;" = `";to
3250 PRINT : PRINT "any key for
menu"
3260 PAUSE 0
3270 GO TO 35
3999 STOP
4000 REM
4001 REM SAVE MODE
4002 REM
4010 PRINT "Input name file is t
o be saved  under"
4015 INPUT e$: PRINT : PRINT e$
4020 SAVE e$ LINE 35
4030 GO TO 35
5000 REM
5001 REM DELETE DATA
5002 REM
5005 PRINT "Delete data mode": P
RINT
5010 PRINT "Input title of data
to be        deleted"
5020 INPUT g$(1)
5030 PRINT : PRINT g$(1)
5040 FOR g=1 TO n
5050 IF g$(1)=a$(g) THEN GO TO 5
500
5060 NEXT g
5070 PRINT : PRINT "Data not fou
nd"
5080 PRINT AT 21,0;"Any key for
menu"
5090 PAUSE 0
5100 GO TO 35
5500 CLS
5510 PRINT "Data found"
5515 PRINT : PRINT "Data being d
eleted"
5520 FOR u=g TO n-1
5530 LET bi=u+1
5540 LET a$(u)=a$(bi): LET a(u)=
a(bi): LET x(u)=x(bi): LET y(u)=
y(bi): LET y(u)=y(bi)
5550 NEXT u
5560 LET n=n-1
5570 GO TO 35
9000 REM
9001 REM DATE SORT
9002 REM
9005 IF n<2 THEN GO TO 35
9007 LET t=(10000*z(n))+(100*y(n
))+(x(n))
9010 FOR s=n TO 2 STEP -1
9030 LET r=(10000*z(s-1))+(100*y
(s-1))+(x(s-1))
9040 IF t<r THEN GO TO 9500
9050 GO TO 35
9060 NEXT s
9070 GO TO 35
9500 LET j=s-1
9510 LET q$=a$(s): LET q=a(s): L
ET qx=x(s): LET qy=y(s): LET qz=
z(s)
9520 LET a$(s)=a$(j): LET a(s)=a
(j): LET x(s)=x(j): LET y(s)=y(j
): LET z(s)=z(j)
9530 LET a$(j)=q$: LET a(j)=q: L
ET x(j)=qx: LET y(j)=qy: LET z(j
)=qz
9540 GO TO 9060
```

Depth Charge

You are a submarine-destroying ship armed with 50 depth charges. Your equipment continuously throws shock waves towards the sea bed. When a submarine is within range, the shock waves will bounce back more quickly than usual. Judge from the shock waves how deep to set the depth charges. You will have 2 strikes at each submarine. If you miss they will fire back and damage your ship. (16K Spectrum)



```
   1 CLS
   2 INK 0: BORDER 3: FLASH 0
   5 LET GO=0: LET J=10
   6 LET L=6
   7 LET PL=240
   8 LET W=5
  10 PRINT AT 0,4; INK 1;"D E P
T H   C H A R G E "
  20 PLOT 0,0: DRAW 255,0: DRAW
0,163: DRAW -255,0: DRAW 0,-163
  25 PLOT 255,100
  30 DRAW -155,0
  35 DRAW 0,-100
  40 PLOT 0,96: DRAW 96,0: DRAW
0,-96
  45 FOR f=10 TO 20: PRINT AT f,
1; INK 5;"(11*isp)": NEXT f
  50 PRINT AT 14,6; INK 0; PAPER
 5;"|"
  55 PRINT AT 15,5; INK 0; PAPER
 5;"- -";AT 16,6; INK 0; PAPER 5
;"|"
  60 PLOT 110,163: DRAW 0,-63
  70 PLOT 7,7: DRAW 0,88
  72 PLOT 7,7: DRAW 88,0
  80 PRINT AT 2,18; PAPER 4;"COM
PUTER"
  90 PRINT AT 2,1;"CHARGES=50"
  95 PRINT AT 3,1; INK 2;"HITS..
.=0"
 100 PRINT AT 4,1;"DAMAGE%=0"
 110 LET CH=50: LET H=0: LET D=0

 115 GO SUB 6000
 120 FOR F=0 TO 7: READ A: POKE
USR "A"+F,A: NEXT F
 125 FOR F=0 TO 7: READ A: POKE
USR "B"+F,A: NEXT F
 130 DATA 1,3,3,127,255,255,127,
0,0,192,192,248,255,255,248,0
 140 PRINT AT 6,15;"ALL SYSTEMS
GO!"
 150 FOR F=0 TO 7: READ A: POKE
USR "C"+F,A: NEXT F
 155 DATA 23,46,175,170,240,45,1
76,170
 200 IF L>1 THEN LET L=INT (30*R
ND)+1
 205 IF ch<1 THEN GO TO 8000
 210 IF L=1 THEN GO SUB 4000
 220 IF GO=1 THEN GO SUB 4050
 300 PLOT PL,95
 310 IF GO=0 THEN DRAW -10,-87
 315 IF GO=1 THEN DRAW -10,-W*8:
BEEP .1,-10: DRAW 8-10,W*8
 400 IF (J=6 OR J=5) THEN PRINT
AT 6,15;"SET CHRGES NOW": PRINT
AT 4,15;"HOW MANY FEET   ";AT 5,
15;"IN HUNDREDS(1-9)": GO TO 410
 402 GO TO 600
 410 INPUT "HOW MANY HUNDREDS OF
 FEET";FEET
 420 PRINT AT 6,15;FEET*100;" FE
ET"
 425 IF  FEET =W THEN LET CH=CH-
1: GO TO 5000
 500 IF J<5 THEN PRINT AT 4,15;"
                ";AT 5,15;"
            ";AT 6,15; FLASH 1; P
APER 4;"TARGET MISSED  "
 510 LET X=INT (RND*30)
 550 PRINT AT 4,14;"YOU MISSED T
ARGET";AT 5,14;"SUB FIRES BACK";
AT 6,14;"RESULT ";X;"% DAMAGE"
 560 LET D=D+X
 570 IF D>=100 THEN GO SUB 9000
 580 PAUSE 100: PRINT AT 4,14;"
                ";AT 5,14;"
            ";AT 6,14;"
        "

 590 PRINT AT 4,9;D
 600 LET PL=PL-20: IF PL=100 THE
N GO SUB 6000
1900 BEEP .1,10
2000 GO TO 200
4000 PRINT AT 6,15;"SUB IN RANGE
  "
4005 LET W=INT (RND*10): LET Q=W
+11
4010 FOR F=1 TO 2: BEEP .1,0: BE
EP .1,10: BEEP .1,30: BEEP .1,40
: BEEP .1,60: BEEP .18,50: BEEP
.1,30: BEEP .1,10: BEEP .1,-10
4020 NEXT F
4030 LET L=0
4050 PRINT AT 15,J; PAPER 5; INK
 0;"  ": LET J=J-1: PRINT AT 15,
J; PAPER 5;"AB"
4060 IF J=1 THEN LET L=6: PRINT
AT 6,15;"SUB PASSED      ": LET J
```

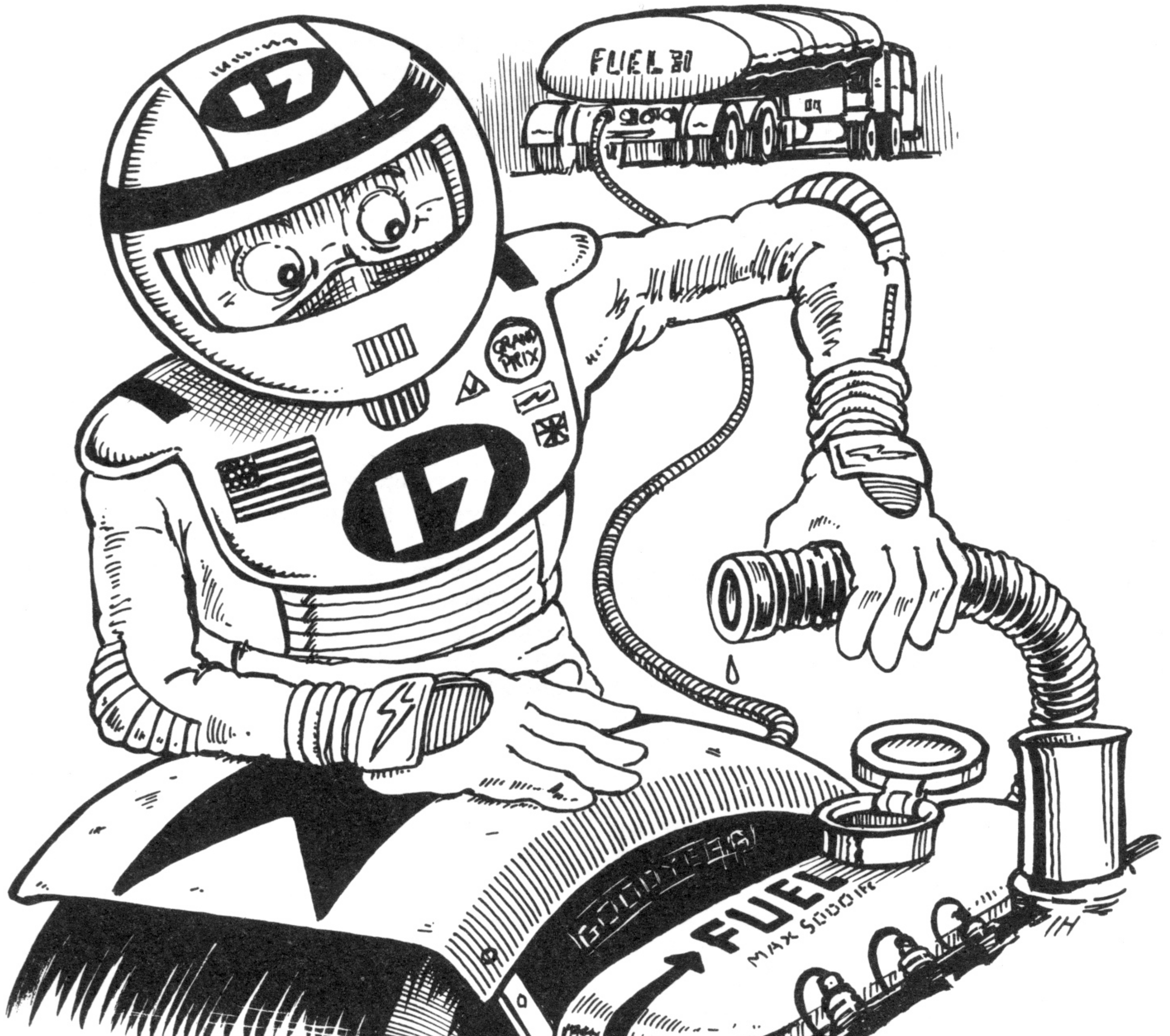
```
=1Ø: PRINT AT 15,1; PAPER 5;"  "
: PRINT AT 15,5; PAPER 5;"- -":
LET GO=Ø: PRINT AT 6,15;"ALL SYS
TEMS GO!": RETURN
4Ø7Ø LET BE=1: LET GO=1
4Ø8Ø RETURN
5ØØØ PRINT AT 15,5; INK 2; PAPER
 6; FLASH 1;"CCC"
5Ø1Ø PRINT AT 4,15;"
    ";AT 5,15;"                "
5Ø15 LET H=H+1
5Ø16 PRINT AT 2,9;CH;AT 3,9;H
5Ø2Ø PRINT AT 6,15; INK 2;"TARGE
T DESTROYED"
5Ø3Ø FOR F=Ø TO 1Ø: BEEP .Ø1,-1Ø
: BEEP .1,Ø: BEEP .1,2Ø: BEEP .1
,4Ø: BEEP .1,Ø: BORDER (RND*7):
NEXT F
5Ø4Ø BEEP .1,1Ø: BEEP .2,4Ø: BEE
P .5,2Ø: BEEP .3,-1Ø
5Ø9Ø PAUSE 5Ø: PRINT AT 6,15;"
               "

51ØØ PRINT AT 15,5; PAPER 5;"- -
": LET L=6: LET GO=Ø:
511Ø LET L=6: LET J=1Ø
55ØØ GO TO 6ØØ
6ØØØ FOR F=1Ø TO 2Ø: PRINT AT F,
13; PAPER 6;"                   "
: NEXT F
6ØØ5 LET pl=24Ø
6ØØ6 PRINT AT 6,15;"SCANNING ARE
A  "
6Ø1Ø RETURN
8ØØØ CLS : PAPER 6: INK 1: BORDE
R 5
8ØØ5 FOR f=4Ø TO Ø STEP -1: BEEP
 .Ø1,2Ø: BEEP .Ø1,5Ø: BEEP .Ø1,-
1Ø: BEEP .Ø1,f: NEXT f
8Ø1Ø PRINT AT 3,1;"YOU ARE OUT O
F CHARGES"
8Ø2Ø PRINT AT 5,2;"BUT..."
8Ø3Ø PRINT AT 6,1;"YOU SCORE ";H
;" HITS"
8Ø4Ø PRINT AT 1Ø,1;"YOUR DAMAGE
WAS ";D;" %"
8Ø5Ø PRINT AT 2Ø,2;"ANOTHER GO (
Y/N)"
8Ø6Ø INPUT A$
8Ø7Ø IF A$="y" THEN RUN
8Ø8Ø STOP
9ØØØ FOR F=Ø TO 22: BEEP .1,F: B
EEP .Ø1,1Ø: RANDOMIZE USR 328Ø:
NEXT F
9Ø1Ø BEEP .4,2Ø: BEEP .5,16: BEE
P .2,2Ø: BEEP .6,1Ø
9Ø2Ø PRINT AT 3,5; BRIGHT 1; PAP
ER 6; INK 1;"THE SUB DESTROYED Y
OU"
9Ø3Ø INK 2
9Ø4Ø PRINT AT 7,2;"YOU HAD ";H;"
 HITS"
9Ø41 PRINT AT 9,2; PAPER 3; INK
6;"THE DAMAGE WAS TO MUCH ";AT 1
Ø,2;"YOUR SHIP WAS BLOWN TO BITS
"
9Ø5Ø PRINT AT 21,Ø;"ANOTHER GAME
 ?(Y/N)"
9Ø6Ø IF INKEY$="y" THEN RUN
9Ø7Ø IF INKEY$="n" THEN STOP
9Ø8Ø GO TO 9Ø5Ø
```

Petrol Consumption

Many car owners have trouble in working out their petrol consumption now that fuel is sold in both litres and gallons. Here is a program for the 16K Spectrum which will do the calculation.

Input your starting mileage, your finishing mileage and the amount of petrol in litres and gallons. The computer will display your fuel consumption in gallons per mile and litres per mile as well as the price per mile.



```
 10 LET a$="PETROL CONSUMPTION 
CALCULATOR": PRINT AT 9,16-(LEN 
a$/2);a$
  30 PAUSE 100: BORDER 2: PAPER 
6: INK 9: CLS
  40 PRINT AT 10,0; BRIGHT 1;"Th
is Program Assumes You Fill     
   Your Tank Each Time         "
  45 PAUSE 100: CLS
  50 INPUT "Enter start mileage"
,a: PRINT "STARTING MILEAGE =";a
  60 INPUT "Enter finishing mile
age",b: PRINT "FINISHING MILEAGE
 =";b
  70 LET c=b-a: PRINT "COMPLETED
 MILEAGE =";c
  80 INPUT "Enter petrol in figu
res only",d: PRINT "PETROL =";d
  90 INPUT "Press 1 if gallon,pr
ess 2 if    litres",e: GO TO e*1
00
 100 LET f=c/d: PRINT "MILES PER
 GALLON =";f
 110 PRINT "or ";c/(d*4.546);" M
ILES PER LITRE"
 130 GO TO 300
 200 LET f=c/d: PRINT "MILES PER
 LITRE = ";f: PRINT "or ";c/(d*.
22);" MILES PER GALLON": GO TO 3
00
 300 INPUT "enter price paid in 
pence",g
 310 LET h=g/c: PRINT "COST PER 
MILE = ";h;"p"
 320 IF h<5 THEN PRINT FLASH 1;"
CHEAP OR YOU ARE CHEATING"
 325 IF h>5 AND h<10 THEN PRINT 
FLASH 1;"AVERAGE"
 330 IF h>10 THEN PRINT FLASH 1;
"BUY A SMALLER CAR"
 340 INPUT "COPY ";G$: IF G$="y"
 THEN COPY
 350 IF G$<>"Y" THEN PRINT FLASH
 1;"HOPE YOU CHECKED THE OIL"
```

Logo

Here is a useful routine for displaying titles, slogans or logos on the 16K Spectrum. Once it is run it requires an input of fewer than 30 characters. It will then display them at the centre of the screen by 'shooting' them in from random directions in different colours and with various notes.

```
  10 PAPER 0: BORDER 0: CLS
  20 INPUT a$
  30 IF LEN a$>30 THEN GO TO 10
  40 LET x=INT (31-LEN a$)/2
  50 FOR l=1 TO LEN a$
  60 LET g=INT (RND*7)*30+120
  70 IF (x+l>20 AND g>200) OR (x
+l<10 AND g>200) THEN GO TO 60
  80 GO SUB g
  90 BEEP .1+(l=LEN a$)*2,g/10
 100 NEXT l: CLS : GO TO 50
 110 REM ****Subroutines****
 120 FOR n=1 TO 10: REM N
 130 PRINT INK 7;AT n,x+l;a$(l);
AT n-1,x+l;" "
 140 NEXT n: RETURN
 150 FOR n=20 TO 10 STEP -1: REM
 S
 160 PRINT INK 6;AT n,x+l;a$(l);
AT n+1,x+l;" "
 170 NEXT n: RETURN
 180 FOR n=30 TO x+l STEP -1: RE
M E
 190 PRINT INK 5;AT 10,n;a$(l)+"
 "
 200 NEXT n: RETURN
 210 FOR n=20 TO 10 STEP -1: REM
 SW
 220 PRINT INK 4;AT n,x+l+10-n;a
$(l);AT n+1,x+l+9-n;" "
 230 NEXT n: RETURN
 240 FOR n=1 TO 10: REM NW
 250 PRINT INK 5;AT n,x+l-10+n;a
$(l);AT n-1,x+l-11+n;" "
 260 NEXT n: RETURN
 270 FOR n=20 TO 10 STEP -1: REM
 SE
 280 PRINT INK 6;AT n,x+l-10+n;a
$(l);AT n+1,x+l-9+n;" "
 290 NEXT n: RETURN
 300 FOR n=1 TO 10: REM NE
 310 PRINT INK 7;AT n,x+l+10-n;a
$(l);AT n-1,x+l+11-n;" "
 320 NEXT n: RETURN
```

Grumphers

The object of the game is to capture the grumphers by moving your figure on top of them with the usual cursor keys. As you move you leave a trail which you must not cross. Unless you move carefully you will soon find your way blocked at all turns. If you find yourself trapped, use the 'J' key to jump to a random position on the screen. The game ends when you cross or land on your own tail. (16K Spectrum)

```
   2 FOR x=Ø TO 7: READ b: POKE
USR "a"+x,b: NEXT x
   3 FOR x=Ø TO 7: READ b: POKE
USR "b"+x,b: NEXT x
   4 FOR x=Ø TO 7: READ b: POKE
USR "c"+x,b: NEXT x
   5 FOR x=Ø TO 7: READ b: POKE
USR "d"+x,b: NEXT x
   6 PAPER Ø: BORDER 2: INK 7: C
LS
  1Ø LET hs=Ø
  8Ø LET s=Ø
  9Ø PRINT PAPER 2;AT Ø,Ø;"
                                "
 1ØØ LET l=11: LET c=16
 1Ø5 GO SUB 8ØØ
 11Ø LET x=l: LET y=c
 115 INK 7
 12Ø PRINT PAPER 2;AT Ø,Ø;"SCORE
:";s
 125 PRINT PAPER 2;AT Ø,17;"HIGH
 SCORE:";hs
 19Ø LET u=l: LET v=c
 2ØØ LET c=c+(INKEY$="8" AND c<3
1)-(INKEY$="5" AND c>Ø)
 21Ø LET l=l+(INKEY$="6" AND l<2
1)-(INKEY$="7" AND l>1)
 255 IF INKEY$="j" THEN GO SUB 2
ØØØ
 38Ø IF SCREEN$ (l,c)="*" THEN G
O TO 1ØØØ
 385 INK 3
 39Ø PRINT AT x,y;"*"
 392 IF l=rl AND c=rc THEN LET s
=s+tt: BEEP .5,2Ø: GO TO 1Ø5
 395 INK 6
 4ØØ PRINT AT l,c;"C"
 41Ø IF l<>u OR c<>v THEN BEEP .
Ø5,-2Ø
 5ØØ GO TO 11Ø
 8ØØ LET rl=INT (RND*2Ø)+1
 81Ø LET rc=INT (RND*31)
 82Ø LET z=INT (RND*11)
 83Ø IF z>=Ø AND z<2 THEN INK 4:
PRINT AT rl,rc;"A": LET tt=15
 84Ø IF z>=2 AND z<6 THEN INK 6:
PRINT AT rl,rc;"B": LET tt=1Ø
 85Ø IF z>=6 AND z<=11 THEN INK
7: PRINT AT rl,rc;"D": LET tt=5
 86Ø RETURN
1ØØØ IF s>hs THEN LET hs=s
1ØØ5 FOR x=3Ø TO Ø STEP -1: BEEP
 .Ø5,x: NEXT x
1Ø1Ø PRINT "END OF GAME"
1Ø3Ø PRINT "ANOTHER GAME ?"
1Ø4Ø INPUT a$
1Ø5Ø IF a$="y" THEN CLS : GO TO
8Ø
1Ø55 REM
1Ø6Ø STOP
2ØØØ LET l=INT (RND*2Ø)+1
2Ø1Ø LET c=INT (RND*31)
2Ø2Ø RETURN
3ØØØ DATA BIN ØØØ11ØØØ
3ØØ1 DATA BIN ØØ1111ØØ
3ØØ2 DATA BIN Ø111111Ø
3ØØ3 DATA BIN Ø1Ø11Ø1Ø
3ØØ4 DATA BIN Ø111111Ø
3ØØ5 DATA BIN Ø1111111
3ØØ6 DATA BIN Ø111111Ø
3ØØ7 DATA BIN Ø1Ø1Ø1ØØ
3Ø11 DATA BIN ØØØØØØØØ
3Ø12 DATA BIN ØØ1111ØØ
3Ø13 DATA BIN Ø111111Ø
3Ø14 DATA BIN Ø1111ØØØ
3Ø15 DATA BIN Ø1111ØØØ
3Ø16 DATA BIN Ø111111Ø
3Ø17 DATA BIN ØØ1111ØØ
3Ø18 DATA BIN ØØØØØØØØ
3Ø21 DATA BIN ØØØ11ØØØ
3Ø22 DATA BIN ØØØ11ØØØ
3Ø23 DATA BIN 11111111
3Ø24 DATA BIN ØØ1111ØØ
3Ø25 DATA BIN ØØ1111ØØ
3Ø26 DATA BIN ØØ1ØØ1ØØ
3Ø27 DATA BIN ØØ1ØØ1ØØ
3Ø28 DATA BIN ØØ1ØØ1ØØ
3Ø31 DATA BIN Ø1ØØØØ1Ø
3Ø32 DATA BIN Ø11ØØ11Ø
3Ø33 DATA BIN Ø111111Ø
3Ø34 DATA BIN Ø1Ø11Ø1Ø
3Ø35 DATA BIN Ø111111Ø
3Ø36 DATA BIN ØØ1111ØØ
3Ø37 DATA BIN ØØØ11ØØØ
3Ø38 DATA BIN ØØØ11ØØØ
```

Hit Star

Along the top of the screen is a row of stars. You must clear away the stars in as few attempts as possible. Do so by means of the stars at the bottom. By setting them in motion at different times you can make them collide under a specific star, thus sending up a bolt of energy which will destroy that star. HIT STAR is for the 16K Spectrum.

```
  1Ø LET hsc=5Ø: LET b$="Spectru
m"
  2Ø GO SUB 2ØØØ
  5Ø REM TUNE
  6Ø DATA .15,7,.15,7,.15,7,.9,Ø
,.9,7,.15,5,.15,4,.15,2,.9,12,.4
5,7,.15,5,.15,4,.15,2,.9,12,.45,
7,.15,5,.15,4,.15,5,1,2
  7Ø RESTORE 6Ø: FOR n=1 TO 19:
READ c,d: BEEP c,d: NEXT n
 1ØØ REM DRAW SCREEN
 11Ø CLS
 12Ø PRINT AT Ø,Ø;"* * * * * * *
*  * * * * * * * *"
 15Ø REM YOUR STARS
 16Ø PRINT AT 21,ay; INK 1;"*"
 17Ø PRINT AT 21,by; INK 3;"*"
 2ØØ REM BRANCHINGS
 21Ø IF a=Ø THEN GO SUB 3ØØ
 22Ø IF b=Ø THEN GO SUB 35Ø
 23Ø IF a=1 THEN GO SUB 4ØØ
 24Ø IF b=1 THEN GO SUB 5ØØ
 29Ø GO TO 2ØØ
 3ØØ REM INKEY$ a
 31Ø IF INKEY$="z" OR INKEY$="Z"
 THEN LET a=1
 34Ø RETURN
 35Ø REM INKEY$ b
 36Ø IF INKEY$="m" OR INKEY$="M"
 THEN LET b=1
 39Ø RETURN
 4ØØ REM MOVE a
 41Ø IF ay<>by THEN PRINT AT 21,
ay; INK 1;" *": LET ay=ay+1
 42Ø IF ay=by THEN GO TO 6ØØ
 49Ø RETURN
 5ØØ REM MOVE b
 51Ø IF by<>ay THEN LET by=by-1:
 PRINT AT 21,by; INK 3;"* "
 52Ø IF by=ay THEN GO TO 6ØØ
 59Ø RETURN
 6ØØ REM SHOOT UP
 61Ø LET s=ay
 62Ø IF SCREEN$ (Ø,s)="*" THEN L
ET beep=1
 63Ø FOR n=2Ø TO Ø STEP -1
 64Ø PRINT AT n,s; INK 4;"A": PR
INT AT n+1,s;" "
 65Ø BEEP .Ø2,5Ø-(2*n)
 66Ø NEXT n
 67Ø IF beep=1 THEN PRINT AT Ø,s
; INK 2;"B": BEEP .Ø5,24
 68Ø PRINT AT Ø,s;" "
 69Ø LET sc=sc+1: LET a=Ø: LET b
=Ø: LET beep=Ø: LET ay=Ø: LET by
=31
 7ØØ REM WELL DONE
 71Ø FOR n=Ø TO 31
 72Ø IF SCREEN$ (Ø,n)="*" THEN G
O TO 15Ø
 73Ø NEXT n
 74Ø CLS
 75Ø PRINT AT 8,1; INK 2; PAPER
7; BRIGHT 1; INVERSE 1;"WELL DON
E!!   You took ";sc;" goes"
 76Ø PRINT AT 12,8; INK 4;"Best
score = ";hsc
 77Ø PRINT AT 13,8; INK 4;"By ";
 INK 3;b$
 78Ø IF sc<hsc THEN GO TO 8ØØ
 79Ø GO TO 85Ø
 8ØØ REM BEST SCORE
 81Ø INPUT INK Ø; PAPER 7; FLASH
 1;"Name please";b$
 82Ø IF LEN b$>15 THEN GO TO 81Ø
 83Ø LET hsc=sc
 84Ø PRINT AT 12,21; INK 4;hsc;"
    ";AT 13,11; INK 3;b$;"
              "
 85Ø REM ANOTHER GO ?
 86Ø PRINT AT 2Ø,3; INK 1; PAPER
 6; FLASH 1;"Do you want another
 game?"
 87Ø INPUT a$
 88Ø IF a$="n" OR a$="N" THEN ST
OP
 89Ø PRINT AT 2Ø,Ø;"

                               "
 9ØØ GO SUB 1ØØØ
 91Ø GO TO 5Ø
1ØØØ REM SET UP VARIABLES
1Ø1Ø LET sc=Ø: LET beep=Ø
1Ø2Ø LET ay=Ø: LET by=31
1Ø3Ø LET a=Ø: LET b=Ø
199Ø RETURN
2ØØØ REM INSTRUCTIONS
2Ø1Ø PRINT AT Ø,Ø; INK Ø; PAPER
5;"            HIT-STAR
  "
2Ø3Ø PRINT '''"You have to clear
```

```
 the stars off      the top of th
e screen."
2040 PRINT '"In order to do this
 you have to make your two stars
 (the ones onthe bottom) collide
 and send up         a bolt of en
ergy."
2050 PRINT '' INK 2;"Use:-"
2060 PRINT ' INK 1;"        z - t
o start left  one          m - t
o start right one"
2940 GO SUB 3000
2950 GO SUB 1000
2960 PRINT AT 21,4; INK 1; PAPER
 6; FLASH 1;"Press any key to st
art"
2970 PAUSE 0
2980 PRINT AT 21,0;"
                                "
2990 RETURN
3000 REM U.D.G.
3010 DATA "a",0,24,24,24,24,24,2
4,0,"b",153,66,36,129,129,36,66,
153
3020 RESTORE 3010
3030 FOR f=1 TO 2
3040 READ e$
3050 FOR n=0 TO 7
3060 READ g
3070 POKE USR e$+n,g
3080 NEXT n
3090 NEXT f
3990 RETURN
```

Map Work

Mapwork is an educational game. A map of England, Scotland and Wales is first drawn and you are asked which game you would like to play. Game one names a town and then asks you to position it on the map with a cross by using the cursor keys. When the cross is in place, press 0 and your answer will be graded out of 10.

Game two reverses the procedure. The computer circles a town and you are asked to name it. The program has a vocabulary of 35 towns and there is a safeguard in it to prevent the same town being used more than once in each round.

```
   2 BORDER Ø: PAPER Ø: INK 9: C
LS
   3 PRINT AT 1Ø,Ø; INK 6; FLASH
 1;"PLEASE WAIT"
   4 LET o=1.2
   5 LET e=Ø: LET w=1Ø: LET r=Ø
  1Ø LET l$="212q11q21222226e2q1
2q12q125234l4q36r124Ø3q212rq2113
11q18r3q1523e1242r4q4q1q3433q212
122q1212341 4e4q44"
  11 LET l$=l$+"q82q2q4q4244q26q
2111q26e3w34w64w22q27q16q34q23q4
2q4q1q21432e21q2212213624e233q13
q21q81q4eq4q2q3q11332q3298e2"
  12 LET l$=l$+"13q2eq1q1q41q4w2
w22w2ew21q2w4w1w2ew2w2e1q2q4w2q1
w5w1w32eew4w2w3ew4w2ew12q1q23w21
q23ew1w4ew4w1w1ew4w3w5ew22e"
  13 LET l$=l$+"123q1122q1211q2w
5w7ew11w4115w3e41w24e31e25w1w3w1
w3w63w81e222eeq1"
  14 LET l$=l$+"q1q21q1q3eew32w1
w3w3ew5w12w4w1w21w2w1w2ew12w3w12
w32ew6w662ew31w3w1w3w9w4w4w21q2e
w24r123r1q2q1q2612q34q1232143q4q
6q2q11q2q3q1ew2w41w4eq1q2q4q1q1q
4q5q4w3w4w7w21w2"
  2Ø LET q=1Ø
  25 PLOT 15Ø,2
  3Ø LET n=1
  35 IF n>=LEN l$ THEN GO TO 1ØØ
  4Ø LET x=VAL l$(n): IF x=1Ø TH
EN LET x=-(VAL l$(n+1)): LET n=n
+1
  5Ø LET n=n+1: LET y=VAL l$(n):
 IF y=1Ø THEN LET y=-(VAL l$(n+1
)): LET n=n+1
  6Ø LET n=n+1: DRAW o*x,o*y: GO
 TO 35
 1ØØ RESTORE : DIM c$(4Ø,12): DI
M c(4Ø,2): FOR n=1 TO 35: READ c
$(n),qq,ww: LET c(n,1)=15Ø+o*qq:
 LET c(n,2)=2+o*ww: NEXT n
 13Ø DATA "LONDON",59,22,"SOUTHA
MPTON",45,13,"EXETER",23,1Ø,"BRI
STOL",34,23,"CARDIFF",26,23,"BIR
MINGHAM",41,39,"LIVERPOOL",3Ø,56
,"MANCHESTER",39,56,"SHEFFIELD",
47,55
 14Ø DATA "LEEDS",46,62,"YORK",5
1,65,"NEWCASTLE",46,82,"EDINBURG
H",34,98,"GLASGOW",22,94,"NORWIC
H",73,41,"TRURO",9,5,"PORTSMOUTH
",51,11,"HULL",54,56,"CARLISLE",
31,8Ø
 15Ø DATA "PETERHEAD",47,121,"SW
ANSEA",2Ø,25,"CANTERBURY",72,14,
"TORQUAY",23,6,"LINCOLN",57,52,"
HEREFORD",31,33,"OXFORD",5Ø,26,"
WINCHESTER",47,16,"DUNDEE",34,1Ø
7
 16Ø DATA "HOLYHEAD",17,53,"LUTO
N",59,31,"ABERDEEN",44,113,"GRIM
SBY",62,57,"CAERNARVON",2Ø,51,"S
OUTHEND",7Ø,24,"FORT WILLIAM",17
,116
 18Ø BEEP .1,1Ø: PRINT AT 1Ø,Ø;"
GAME 1 OR 2 ?": INPUT ">> "; LIN
E y$: IF y$="2" THEN GO TO 5ØØ
 19Ø IF y$<>"1" THEN GO TO 18Ø
 2ØØ DIM d(35)
 2Ø1 LET sc=Ø
 2Ø5 FOR c=1 TO 1Ø
 21Ø LET r=INT (RND*35)+1: IF d(
r) THEN GO TO 21Ø
 22Ø LET d(r)=1: LET p$=c$(r): L
ET xx=c(r,1): LET yy=c(r,2)
 23Ø PRINT AT 9,Ø;"FIND          "
;AT 1Ø,Ø;p$;" ";AT 11,Ø;"
      "
 235 LET x=14Ø: LET y=7Ø
 25Ø LET x=x+2*(INKEY$="8" AND x
<252)-2*(INKEY$="5" AND x>14Ø):
LET y=y+2*(INKEY$="7" AND y<172)
-2*(INKEY$="6" AND y>3): GO SUB
1ØØØ: PAUSE Ø: GO SUB 1ØØØ
 26Ø IF INKEY$<>"Ø" THEN GO TO 2
5Ø
 27Ø FOR n=2Ø TO 4Ø: BEEP .ØØ6,n
: NEXT n
 28Ø LET xd=ABS (xx-x): LET yd=A
BS (yy-y): LET d=SQR (xd*xd+yd*y
d): LET d=INT ((2Ø-d)/1.9): LET
d=(d AND d>Ø)+(Ø AND d<Ø): PRINT
 AT 9,Ø;"          ";AT 1Ø,Ø;d;"/
1Ø FOR         ";AT 11,Ø;"ACCURA
CY    ": BEEP 1,d: LET sc=sc+d
 29Ø CIRCLE OVER 1; INK 6;xx,yy,
2: CIRCLE OVER 1; INK 6;xx,yy,5:
 BEEP 1,d: PRINT AT 9,Ø;"PRESS A
```

```
NY      ";AT 10,0;"KEY TO     ";AT
 11,0;"CONTINUE   ": PAUSE 1: PAU
SE 0: CIRCLE OVER 1;xx,yy,2: CIR
CLE OVER 1;xx,yy,5
 300 NEXT c: FOR n=0 TO 3: FOR m
=30 TO 40: BEEP .01,m: NEXT m: N
EXT n: PRINT AT 9,0;"YOU SCORED
     ";AT 10,0;sc;"/100        ";A
T 11,0;"PRESS ANY KEY ";AT 12,0;
"TO PLAY AGAIN": BEEP .4,10: PAU
SE 1: PAUSE 0: LET l$="
     ": FOR n=9 TO 12: PRINT AT
n,0;l$: NEXT n
 310 GO TO 180
 500 LET sc=0: DIM d(35): FOR c=
1 TO 10
 510 LET r=INT (RND*35)+1: IF d(
r) THEN GO TO 510
 520 LET d(r)=1: LET xx=c(r,1):
LET yy=c(r,2): CIRCLE INK 6; OVE
R 1;xx,yy,2: CIRCLE INK 6; OVER
1;xx,yy,5
 530 DIM t$(12): PRINT AT 9,0;"W
HAT IS        ";AT 10,0;"THIS TOWN
     ";AT 11,0;"CALLED ?     ": P
OKE 23658,8: INPUT ">> "; LINE t
$: POKE 23658,0: IF CODE t$=32 T
HEN GO TO 530
 540 IF t$=c$(r) THEN PRINT AT 9
,0;"THAT IS    ";AT 10,0;"CORRECT
     ";AT 11,0;"WELL DONE    ": B
EEP 1,15: LET sc=sc+10: GO TO 56
0
 550 PRINT AT 9,0;"NO, IT IS
 ";AT 10,0;"CALLED        ";AT 11
,0;c$(r): BEEP .5,0: BEEP .5,-10
 560 CIRCLE OVER 1;xx,yy,2: CIRC
LE OVER 1;xx,yy,5
 570 GO TO 300
1000 OVER 1: PLOT x,y-2: DRAW 0,
4: PLOT x-2,y: DRAW 4,0: OVER 0:
 RETURN
```

Counting

Counting is an educational program designed to help children of early school age to learn to count in a fun way. Pictures are displayed on the screen and the child is asked to count them and to press the appropriate key. If the question proves too difficult, pressing 'A' will provide the right answer. For the 16K Spectrum.

```
  2Ø BORDER 6: INK 1: BRIGHT 1
  25 CLS
  27 GO SUB 6ØØØ: REM ** U.D.G.
routine **
  3Ø PRINT AT 4,3;" ** Learning
to Count ** "'"..................
.................."
  32 PRINT AT 1Ø,Ø;"Press the co
rrect number key,   or ""a"" if
you want to know the  answer..."
  35 PRINT AT 16,Ø; PAPER 3;"
 Press any key to start        "
  5Ø PAUSE Ø: CLS
  6Ø RESTORE 1ØØ: FOR z=1 TO 1Ø:
 READ a$
  65 LET a=INT (RND*1Ø)
  7Ø IF a<1 OR a>9 THEN GO TO 65
 1ØØ DATA "lorries","cups","flow
ers","houses","giraffes","boats"
,"trees","people","clocks","keys
"
 1Ø5 PRINT "How many ";a$;" are
there ?"
 11Ø GO SUB 7ØØØ
 114 IF INKEY$<>"" THEN GO TO 11
2
 115 IF INKEY$=STR$ a THEN GO TO
 1ØØØ
 117 IF INKEY$="a" THEN GO TO 2Ø
ØØ
 118 GO TO 115
 12Ø STOP
 15Ø NEXT a
1ØØØ PRINT AT 21,8; FLASH 1;a;"
is CORRECT !"
1ØØ1 GO SUB 1ØØ2: GO TO 1ØØ5
1ØØ2 FOR g=5 TO 5Ø: BEEP .Ø15,g:
 NEXT g
1ØØ3 RETURN
1ØØ5 CLS
1Ø1Ø NEXT z
1Ø12 GO TO 9ØØØ
2ØØ3 PRINT AT 2Ø,Ø;"THERE ARE ";
a;" ";a$: FOR i=1 TO 15Ø: NEXT i
: GO SUB 1ØØ2
2ØØ5 CLS
2Ø1Ø NEXT z
2Ø12 GO TO 9ØØØ
5999 STOP
6ØØØ PRINT FLASH 1;AT 1Ø,8;"STOP
 THE TAPE": RESTORE 61ØØ
6Ø1Ø FOR d=1 TO 18: READ d$: FOR
 e=Ø TO 7: READ f: POKE USR d$+e
,f: NEXT e: NEXT d
61ØØ REM ***UDG HERE***
62ØØ DATA "a",Ø,Ø,62,38,126,126,
127,48
621Ø DATA "b",Ø,Ø,254,254,254,25
4,254,1Ø2
622Ø DATA "c",Ø,Ø,124,127,125,12
7,124,56
623Ø DATA "d",24,36,74,186,154,8
4,36,24
624Ø DATA "e",8,16,16,2Ø8,54,24,
16,16
625Ø DATA "f",1,7,31,127,32,45,3
3,63
6255 DATA "g",128,228,252,254,4,
18Ø,132,252
626Ø DATA "h",Ø,48,112,16,16,16,
16,16
6265 DATA "i",16,16,16,3Ø,31,17,
18,18
627Ø DATA "j",Ø,Ø,Ø,6Ø,31,31,15,
7
6275 DATA "k",128,128,128,128,25
2,248,248,232
628Ø DATA "l",24,6Ø,126,255,255,
254,126,1Ø4
6285 DATA "m",8,8,8,8,8,8,8,28
629Ø DATA "n",56,56,56,16,254,18
6,186,186
6295 DATA "o",186,186,56,56,4Ø,4
Ø,4Ø,1Ø8
63ØØ DATA "p",255,145,145,145,13
7,133,131,255
63Ø5 DATA "q",24,62,62,119,119,6
2,62,24
631Ø DATA "r",Ø,Ø,Ø,255,255,7,5,
5
632Ø PRINT AT 1Ø,8;"
 "

635Ø RETURN
7ØØØ IF z=1 THEN LET g$="AB"
7ØØ5 IF z=2 THEN LET g$="C"
7Ø1Ø IF z=3 THEN LET g$="D": LET
 h$="E"
7Ø15 IF z=4 THEN LET g$="FG"
7Ø2Ø IF z=5 THEN LET g$="H": LET
 h$="I"
```

```
7025 IF z=6 THEN LET g$="JK"
7030 IF z=7 THEN LET g$="L": LET
 h$="M"
7035 IF z=8 THEN LET g$="N": LET
 h$="O"
7040 IF z=9 THEN LET g$="P"
7050 IF z=10 THEN LET g$="QR"
7100 IF z=1 OR z=2 OR z=4 OR z=6
 OR z=9 OR z=10 THEN PRINT AT 9,
0;" ": PLOT 0,75: DRAW 255,0: PL
OT 0,98: DRAW 255,0: FOR x=1 TO
a: PRINT ; INK INT (RND*6);g$;"
 ";: NEXT x: RETURN
7190 LET g=10: LET h=0
7195 PLOT 0,75: DRAW 255,0: PLOT
 0,98: DRAW 255,0
7200 FOR y=1 TO a: PRINT AT g,h;
 INK INT (RND*6);g$;AT g+1,h;h$:
 LET h=h+3: NEXT y: RETURN
8999 STOP
8488 FOR s=0 TO 9: BEEP .1,s: NE
XT s: BEEP .5,15: PAPER 6: CLS :
 PRINT AT 11,10; FLASH 1;"WELL D
ONE !"
9020 PRINT ''''"Another"go ?  (y
)es   or                      (n
)o"
9025 IF INKEY$="y" OR INKEY$="Y"
 THEN RUN 30
9030 IF INKEY$="n" OR INKEY$="N"
 THEN STOP
9040 GO TO 9025
```

Washing Line

A game for 1 to 5 players. A washing line is displayed on the screen and you must choose which items of clothing to hang on to it until it breaks. Try not to be the person who breaks the line.

Heavier clothes carry high scores and socks score very low. A random element is introduced by the birds of unknown weight which land on the washing line from time to time. Written for the 16K Spectrum.

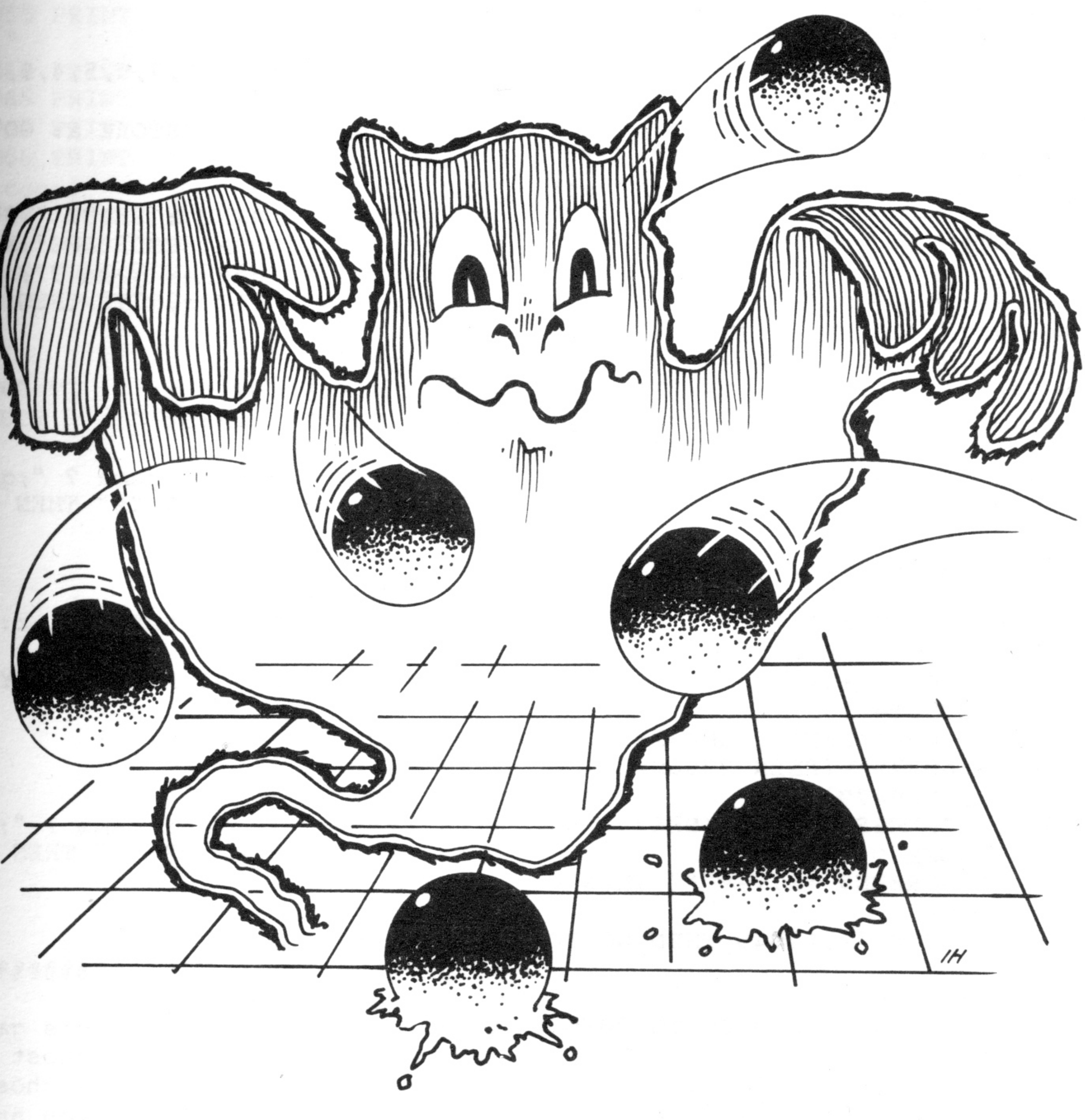
```
   1 PRINT "STOP THE TAPE": LET
hs=Ø: GO SUB 1ØØØ: DIM b$(2): LE
T b$(1)="P": LET b$(2)="Q"
   2 DIM t$(2): DIM r$(2): DIM p
$(2,2): DIM j$(2,2): DIM s$(1):
DIM u$(3,2)
   3 LET t$(1)="R": LET t$(2)="S
": LET r$(1)="T": LET r$(2)="U":
 LET u$(2)="LM": LET u$(3)="NO":
 LET p$(1)="AB": LET p$(2)="CD":
 LET j$(1)="FG": LET j$(2)="HI":
 LET s$(1)="J": LET u$(1)="K"
   4 INPUT "Do you want instruct
ions?(y/n)";a$: IF a$="y" THEN G
O SUB 2ØØØ
   5 BORDER 5: PAPER 7: INK Ø: C
LS
   6 INPUT "1 TO 5 PLAYERS";p
   7 IF p>5 THEN GO TO 5Ø
   8 DIM n$(p,4)
   9 FOR f=1 TO p: INPUT "Player
 ";(f);" name(4 letters)";n$(f):
 NEXT f
  1Ø PRINT AT Ø,5;"HANG  OUT  TH
E WASHING!"
  15 PRINT AT 1,13;"HI-SCORE";hs
  2Ø PRINT AT 21,Ø; INK 4;"(32*i
sp)"
  3Ø FOR z=1Ø TO 2Ø: PRINT AT z,
Ø; INK 3;"(ig5)";AT z,31; INK 3;
"(g5)": NEXT z
  4Ø PLOT Ø,96: DRAW 255,Ø
  7Ø DIM s(f): LET s(1)=Ø: LET s
(2)=Ø
  8Ø LET pp=1: LET x=2: LET y=1
  9Ø LET pw=5ØØ: LET jw=4ØØ: LET
 vw=1ØØ: LET uw=75: LET sw=5Ø
  95 LET gt=25ØØ+INT (RND*1ØØØ)+
1ØØ
  96 LET tw=Ø
 1ØØ FOR f=1 TO p
 11Ø PRINT INK Ø;AT 2,Ø;n$(f);"'
s go "
 12Ø PRINT INK Ø;AT 3,Ø;"Which i
tem? p=pants j=jumper    up=u.pa
nts  v=vest s=socks      sc=scar
f  sk=skirt": INPUT a$
 13Ø IF a$="p" THEN GO TO 2ØØ
 14Ø IF a$="j" THEN GO TO 25Ø
 15Ø IF a$="v" THEN GO TO 3ØØ
 16Ø IF a$="up" THEN GO TO 35Ø
 17Ø IF a$="s" THEN GO TO 4ØØ
 171 IF a$="sc" THEN GO TO 45Ø
 172 IF a$="sk" THEN GO TO 5ØØ
 175 GO TO 12Ø
 18Ø IF INT (RND*1Ø)=5 THEN GO T
O 7ØØ
 185 IF pp>=31 THEN GO TO 85Ø
 19Ø NEXT f
 195 GO TO 1ØØ
 2ØØ LET tw=tw+5ØØ+INT (RND*2Ø)
 2Ø1 OVER 1
 21Ø IF tw>=gt THEN GO TO 8ØØ
 22Ø LET s(f)=s(f)+25+INT (RND*1
1)
 23Ø INK INT (RND*7): PRINT AT 1
Ø,pp;p$(1);AT 11,pp;p$(2)
 235 LET pp=pp+2
 236 OVER Ø
 237 BEEP .1,25
 24Ø GO TO 18Ø
 25Ø LET tw=tw+4ØØ+INT (RND*15)
 251 OVER 1
 26Ø IF tw>=gt THEN GO TO 8ØØ
 27Ø LET s(f)=s(f)+2Ø+INT (RND*1
1)
 28Ø INK INT (RND*7): PRINT AT 1
Ø,pp;j$(1);AT 11,pp;j$(2)
 285 LET pp=pp+2
 286 OVER Ø
 287 BEEP .1,2Ø
 29Ø GO TO 18Ø
 3ØØ LET tw=tw+1ØØ+INT (RND*15)
 3Ø1 OVER 1
 31Ø IF tw>=gt THEN GO TO 8ØØ
 32Ø LET s(f)=s(f)+15+INT (RND*1
1)
 266 INK INT (RND*7): PRINT AT 1
Ø,pp;u$(2);AT 11,pp;u$(3)
 335 LET pp=pp+2
 336 OVER Ø
 337 BEEP .1,15
 34Ø GO TO 18Ø
 35Ø LET tw=tw+75+INT (RND*15)
 351 OVER 1
 36Ø IF tw>=gt THEN GO TO 8ØØ
 37Ø LET s(f)=s(f)+1Ø+INT (RND*1
)
 38Ø INK INT (RND*7): PRINT AT 1
Ø,pp;u$(1)
```

```
 385 LET pp=pp+1
 386 BEEP .1,10: OVER 0
 390 GO TO 180
 400 LET tw=tw+50+INT (RND*15)
 401 OVER 1
 410 IF tw>=gt THEN GO TO 800
 420 LET s(f)=s(f)+5+INT (RND*11
)
 430 INK INT (RND*7): PRINT AT 1
0,pp;s$(1)
 435 LET pp=0p+1
 436 BEEP .1,5: OVER 0
 440 GO TO 180
 450 LET tw=tw+250+INT (RND*15)
 451 OVER 1
 460 IF tw>=gt THEN GO TO 800
 406 LET s(f)=s(f)+17+INT (RND*1
1)
 480 INK INT (RND*7): PRINT AT 1
0,pp;t$(1);AT 11,pp;t$(2)
 485 LET pp=pp+1
 486 BEEP .1,17: OVER 0
 490 GO TO 180
 500 LET tw=tw+450+INT (RND*25)
 501 OVER 1
 510 IF tw>=gt THEN GO TO 800
 520 LET s(f)=s(f)+22+INT (RND*1
1)
 530 INK INT (RND*7): PRINT AT 1
0,pp;r$(1);AT 11,pp;r$(2)
 535 LET pp=pp+1
 536 BEEP .1,22: OVER 0
 540 GO TO 180
 700 INK 0: LET x=2: LET y=31: L
ET ty=INT (RND*31)
 705 LET tx=(31-ty)/5
 710 FOR g=31 TO ty STEP -1
 720 PRINT AT x,g;"Q";: PAUSE 5:
 PRINT AT x,g;" "
 730 NEXT g
 740 FOR g=2 TO 9: PRINT AT g,ty
;"Q": PAUSE 5: PRINT AT g,ty;" "
: NEXT g
 750 PRINT AT 9,ty;"P"
 760 LET tw=tw+50+INT (RND*101)
 765 IF tw>=gt THEN GO TO 800
 770 LET s(f)=s(f)+INT (RND*25)+
25
 780 GO TO 185
 798 PRINT AT 0,0;"BIRD": GO TO
185
 799 STOP
 800 OVER 0: PRINT AT 10,pp+1;"E
";AT 9,pp;"SNAP": BEEP 1,-20: PR
INT "Player ";f;" loses":
 801 LET s(f)=s(f)-25
 802 PAUSE 100
 810 INK 0: FOR f=1 TO p: PRINT
AT 9+f,0;"Player ";f;" ";n$(f);"
 ";"Score";s(f): NEXT f
 815 FOR f=1 TO p: IF s(f)>hs TH
EN LET hs=s(f)
 816 NEXT f
 820 INPUT "Another Game?(y/n)";
a$
 830 IF a$="y" THEN GO TO 870
 840 IF a$="n" THEN STOP
 845 GO TO 820
 850 PRINT "Line Full. All Playe
rs lose"
 860 PRINT AT 9,28;"SNAP";AT 10,
30;"E": GO TO 810
 870 INPUT "Same number of 0laye
rs?(y/n)";a$
 880 IF a$="y" THEN GO TO 900
 890 IF a$="n" THEN GO TO 4
 895 GO TO 870
 900 INPUT "Instructions? (y/n)"
;a$
 910 IF a$="y" THEN GO SUB 2000:
 CLS : GO TO 10
 930 IF a$="n" THEN CLS : GO TO
10
 940 GO TO 900
1000 FOR u=144 TO 164
1010 FOR f=0 TO 7: READ a: POKE
USR CHR$ u+f,a: NEXT f: NEXT u
1020 RETURN
1050 DATA 15,15,15,15,14,14,14,1
4
1060 DATA 240,240,240,240,112,11
2,112,112
1070 DATA 14,14,14,14,14,14,14,1
4
1080 DATA 112,112,112,112,112,11
2,112,112
1090 DATA 145,82,0,8,82,0,74,137
1100 DATA 3,7,63,63,55,55,55,55
1110 DATA 192,224,252,252,236,23
6,236,236
```

```
1120 DATA 55,55,7,7,7,Ø,Ø,Ø
1130 DATA 236,236,224,224,224,Ø,
Ø,Ø
1140 DATA 2Ø,2Ø,2Ø,2Ø,2Ø,2Ø,119,
119
1150 DATA 255,255,255,126,6Ø,24,
Ø,Ø
1160 DATA 4,4,6,7,7,7,7,7
1170 DATA 32,32,96,224,224,224,2
24,224
1180 DATA 7,7,7,7,7,Ø,Ø,Ø
1190 DATA 224,224,224,224,224,Ø,
Ø,Ø
1200 DATA 4,4,7,252,124,6Ø,16,25
5
1210 DATA Ø,Ø,66,165,24,24,Ø,Ø
1220 DATA 124,124,62,31,62,124,2
48,124
1230 DATA 62,31,62,124,248,168,8
4,42
1240 DATA 126,126,126,126,126,12
6,126,126
1250 DATA 255,255,170,Ø,Ø,Ø,Ø,Ø
2000 CLS : PRINT AT Ø,5;"HANG  O
UT  THE WASHING!"
2001 PRINT "You have to hang as
many items"'"of clothing out on
the line "'"as possible without
the line "'"breaking. Each item
has an "'"approximate weight and
 the "'"heavier the item the hig
her "'"the score.The score is al
so "'"approximate The game ends
when"'"the line snaps."
2010 PRINT "Also birds can land
on the line"'"which makes it hea
vier."
2020 PRINT AT 11,Ø;"SCORING:-";T
AB 16;"POINTS";TAB 25;"WEIGHT"
2030 PRINT AT 12,Ø;p$(1);"  Pant
s";TAB 16;25;TAB 25;5ØØ;"g";TAB
Ø;p$(2)
2035 PRINT 'r$(1);" Skirt";TAB 1
6;22;TAB 25;45Ø;"g";TAB Ø;r$(2)
2040 PRINT 'j$(1);"  Jumper";TAB
 16;2Ø;TAB 25;4ØØ;"g";TAB Ø;j$(2
)
2044 PRINT "Press any key": PAUS
E Ø: POKE 23692,255
2045 PRINT 't$(1);"  Scarf";TAB
16;17;TAB 25;25Ø;"g";TAB Ø;t$(2)
2050 PRINT 'u$(2);"  Vest";TAB 1
6;15;TAB 25;1ØØ;"g";TAB Ø;u$(3)
2060 PRINT 'u$(1);" Underpants";
TAB 16;1Ø;TAB 25;75;"g"
2070 PRINT 's$(1);"  Socks";TAB
16;5;TAB 25;5Ø;"g"
2075 PRINT 'b$(1);"  Bird";TAB 1
6;"?";TAB 25;"?g"
2080 PRINT '"Press any key": PAU
SE Ø: RETURN
```

Move It!

Move It is another round in the continuing battle between you and the ghosts which haunt your Spectrum. The ghost chases you round the screen and you score by tricking it into crashing into the blobs. If the ghost catches you it will eat you and if you run into a blob you will be splatted.



```
   1 PAPER 7: CLS : GO SUB 6ØØØ
: GO SUB 5ØØØ
   2 CLS : GO TO 5Ø
   5 LET s=Ø: LET k=15: LET l=15
: LET j=1: LET h=2Ø
  1Ø FOR a=Ø TO 31: PRINT AT Ø,a
;"*": PRINT AT 21,a;"*": NEXT a
  2Ø FOR a=Ø TO 21: PRINT AT a,Ø
;"*": PRINT AT a,31;"*": NEXT a
  3Ø PRINT AT 1,1;"*"
  4Ø GO TO 9Ø
  5Ø FOR n=Ø TO q-1
  55 LET w=INT (RND*19)+1: LET e
=INT (RND*29)+1
  6Ø PRINT INK 1; PAPER 6;AT w,e
;"AA"
  65 PRINT INK 1; PAPER 6;AT w+1
,e;"AA"
  7Ø NEXT n
  8Ø GO TO 5
  9Ø PRINT AT k,l;"C"
 1ØØ PRINT AT INT j,INT h;" ": L
ET j=j+.8*(j<k)-.5*(j>k): LET h=
h+.8*(h<l)-.5*(l<h): IF ATTR (IN
T j,INT h)=49 THEN LET s=s+1
 1Ø1 IF SCREEN$ (INT j,INT h)="*
" THEN GO SUB 12ØØ
 1Ø5 PRINT INK 2; PAPER 7;AT INT
 j,INT h;"B"
 11Ø IF ATTR (k,l)=58 THEN GO TO
 2ØØØ
 145 PRINT AT k,l;" "
 15Ø LET l=l-(PEEK 2356Ø=119 OR
PEEK 2356Ø=87)+(PEEK 2356Ø=1Ø1 O
R PEEK 2356Ø=69)
 16Ø LET k=k+(PEEK 2356Ø=1Ø7 OR
PEEK 2356Ø=75)-(PEEK 2356Ø=111 O
R PEEK 2356Ø=79)
 165 IF INKEY$="h" OR INKEY$="H"
 THEN PAUSE Ø
 17Ø IF SCREEN$ (k,l)="*" THEN G
O SUB 1ØØØ
 18Ø IF ATTR (k,l)=49 THEN GO TO
 15ØØ
 185 PRINT AT Ø,Ø;s
 19Ø IF s=q*4/2 THEN GO TO 3ØØØ
 2ØØ GO TO 9Ø
1ØØØ IF k=Ø THEN LET k=1
1Ø1Ø IF k=21 THEN LET k=2Ø
1Ø2Ø IF l=Ø THEN LET l=1
1Ø3Ø IF l=31 THEN LET l=3Ø
1Ø5Ø RETURN
12ØØ IF INT j=Ø OR INT j<Ø THEN
LET j=1
121Ø IF INT j=21 THEN LET j=Ø
122Ø IF INT h=Ø OR INT h<Ø THEN
LET h=1
123Ø IF INT h=31 THEN LET h=3Ø
124Ø RETURN
15ØØ CLS
15Ø5 READ a
151Ø BEEP .5,a
152Ø DATA 6,9,3,2,5,7,6,5,4,9,1,
Ø
154Ø IF a=Ø THEN RESTORE a: GO T
O 156Ø
155Ø GO TO 15Ø5
156Ø PRINT : PRINT : PRINT "YOU
CRASHED"'" WITH A SCORE OF ";s
157Ø INPUT " Another game ?";q$
158Ø IF q$="y" OR q$="Y" THEN GO
 TO 1
1999 STOP
2ØØØ CLS : PRINT "          IT GOT
YOU ": PRINT : PRINT "      YOUR
SCORE IS ";s
2Ø2Ø INPUT "Another game ? ";q$
2Ø3Ø IF q$="y" OR q$="Y" THEN GO
 TO 1
25ØØ STOP
3ØØØ FOR n=Ø TO 3Ø
3Ø1Ø FOR z=Ø TO 5: BEEP .Ø1,z: N
EXT z
3Ø2Ø PRINT FLASH 1;AT 18,12;"YOU
 WON"
31ØØ LET a=INT (RND*7)+1
311Ø PAPER a
312Ø NEXT n
313Ø INPUT " Another game ? ";q$
314Ø IF q$="y" OR q$="Y" THEN GO
 TO 1
315Ø STOP
4Ø1Ø PAUSE 1ØØ
5ØØØ CLS : PRINT "%%%%%%%%%%%MO
VE IT%%%%%%%%%%%"
5Ø1Ø PRINT : PRINT "In this game
 you have to make  the ghost ea
t the blobs."'"But if the ghost
catches you it will eat you and
if you run intothe blobs you wil
```

```
l be SPLATTED."
5020 PRINT : PRINT "You look lik
e this      C"
5030 PRINT : PRINT "The ghost lo
oks like this    "; INK 2;"B"
5040 PRINT : PRINT "The blobs lo
ok like this    AA
                AA"
5050 PRINT : PRINT "To move use
keys:-"
5055 PRINT : PRINT "w to move le
ft"
5060 PRINT "e to move right"
5065 PRINT "o to move up"
5067 PRINT "k to move down"
5068 PRINT "h to hold (any key t
o cont)"
5070 INPUT "How many blobs ?";q
6000 POKE USR "a",BIN 11111111
6010 POKE USR "a"+1,BIN 10000001
6020 POKE USR "a"+2,BIN 11111111
6030 POKE USR "a"+3,BIN 10000001
6040 POKE USR "a"+4,BIN 11111111
6050 POKE USR "a"+5,BIN 10000001
6060 POKE USR "a"+6,BIN 11111111
6080 POKE USR "b",  BIN
6090 POKE USR "b"+1,BIN 01111100
7000 POKE USR "b"+2,BIN 11010110
7010 POKE USR "b"+3,BIN 11111110
7020 POKE USR "b"+4,BIN 11111110
7030 POKE USR "b"+5,BIN 01111100
7040 POKE USR "b"+6,BIN 01010100
7060 POKE USR "c",  BIN
7070 POKE USR "c"+1,BIN 0001000
7080 POKE USR "c"+2,BIN 0011100
7090 POKE USR "c"+3,BIN 1010101
8000 POKE USR "c"+4,BIN 1000001
8010 POKE USR "c"+5,BIN 0001000
8020 POKE USR "c"+6,BIN 0001000
3030 POKE USR "c"+7,BIN 0111110
8050 RETURN
```

Shoot Out

SHOOT OUT is for the 16K Spectrum and is an ingenious game which two players can play simultaneously. Two rival gangs meet in the desert for a fight with water pistols. The blue gang moves up with 1, down with Z, draws with Q, replaces guns with W and squirts with A. The magenta team moves up with O, down with symbol shift, draws with P, replaces guns with O and squirts with L.

Both gangs must avoid the cowboys who drive past in a wagon, occasionally shooting any gangster who is not taking cover behind a cactus.

```
  30 PRINT '"Two rival gangs arm
ed with waterpistols meet up one
 night in thedesert to fight."
  40 PRINT '"The gang on my left
 are "; INK 3;"MAGENTA"
  50 PRINT '"The gang on my righ
t are "; INK 1;"BLUE"
  60 PRINT '"Please wait whilst
the user    defineable graphics
 are loaded"'"In good SINCLAIR t
radition some music (?) will be
played while  you wait."
  70 GO SUB 9000
  80 DIM a$(704)
  90 PRINT OVER 1; INK 4; PAPER
0;AT 0,0;a$
 100 BORDER 4
 110 PRINT AT 21,2;"Press ENTER
key TO CONTINUE "
 120 PAUSE 4e4
 140 PRINT AT 1,0; OVER 1; INK 7
;a$( TO 672)
 150 PRINT AT 2,0;"A MESSAGE TO
THE "; INK 1;"BLUE"; INK 0;" GAN
G"
 160 PRINT '"Your controls are ;
-"
 170 PRINT '"KEY| FUNCTION"
 180 PRINT " 1 |Moves you up."
 190 PRINT " Z |Moves you down."
 200 PRINT " Q |Draw {you can't
move now}."
 210 PRINT " W |Put gun back in
holster {you   |can move again n
ow}."
 220 PRINT " A |SQUIRT [fire]."
 230 PRINT AT 21,2;"Press ENTER
key TO CONTINUE "
 240 BORDER 0
 250 PAUSE 4e4
 260 PAPER 2: INK 7: PRINT AT 0,
0; INK 6; PAPER 2; OVER 1;a$;AT
1,0; OVER 0;a$( TO 672)
 350 PRINT AT 2,0;"A MESSAGE TO
THE "; INK 3;"MAGENTA"; INK 7;"
GANG"
 360 PRINT '"Your controls are ;
-"
 370 PRINT '"KEY| FUNCTION"
 380 PRINT " 0 |Moves you up."
 390 PRINT INK 2; PAPER 0;"SYMBO
L SHIFT"; INK 7; PAPER 2;"|Moves
 you down."
 400 PRINT " P |Draw {you can't
move now}."
 410 PRINT " O |Put gun back in
holster {you   |can move again n
ow}."
 420 PRINT " L |SQUIRT [fire]."
 430 PRINT AT 21,2;"Press ENTER
key TO CONTINUE "
 440 PAUSE 4e4
 450 PRINT AT 1,0;a$( TO 672)
 460 BORDER 6
 500 PRINT AT 1,0;" AND SOME INS
TRUCTIONS TO BOTH:-"
 510 PRINT '"You may press more
than one key at a time."
 520 PRINT "You may shoot out an
y object."
 530 PRINT "You can move off the
 screen"'"(i.e. if you move off
the top   you reappear at the bo
ttom)."
 540 PRINT "Only one pair of gun
men fight atonce BUT sometimes a
 WAGGON willcome down the screen
 to try and shoot you in the leg
s but you   will survive if you
are behind aCACTUS."
8999 STOP
9000 FOR j=144 TO 164: BEEP .4,-
140+(j*1.2): FOR k=0 TO 7: BEEP
.002,40+(k*2): READ n: POKE USR
CHR$ j+k,n: NEXT k: NEXT j
9020 RETURN
9030 DATA 24,126,24,24,126,126,1
26,126,126,126,60,60,60,60,126,2
55,24,126,24,24,63,63,60,60,56,5
6,24,24,24,24,28,30,0,0,0,0,222,
208,0,0,24,126,24,24,252,252,60,
60,28,28,24,24,24,24,56,120,0,0,
0,0,123,11,0,0,0,0,0,0,64,97,127
,127,0,0,2,2,15,255,242,243,0,0,
64,64,240,255,79,207,0,0,0,0,2,1
30,254,254,31,48,96,64,192,128,1
28,128,248,12,6,2,3,1,1,1,192,64
,64,64,64,127,127,15,3,2,2,2,2,2
54,254,240,244,244,244,254,254,4
,4,4,47,47,47,127,127,32,32,32,1
```

```
45,66,6Ø,37,164,6Ø,66,137,Ø,2,7,
71,231,231,231,231,231,119,127,6
2,6Ø,6Ø,6Ø,6Ø
9Ø4Ø REM ENTER ALL LINES TO 9Ø4Ø
 THEN RUN THE PROGRAM.  ONCE YOU
 HAVE READ THE INSTRUCTIONS NEW
THIS PART OF THE PROGRAM AND ENT
ER THE NEXT SECTION.
```

```
   1 BORDER Ø: PAPER Ø: INK 9: C
LS
  1Ø LET a=21: LET b=Ø: LET c=1:
 LET d=31
  2Ø LET ls=Ø: LET rs=Ø
 1Ø1 PRINT ' INK 1;"BLUE", INK 3
;"MAGENTA", INK 6;"1.....UP.....
...Ø","Q.....DRAW......P","W..RE
PLACE GUN..O","A.....FIRE......"
; INK 7;"ENTER", INK 6;"Z.....DO
WN......"; INK 2;"SYMBOL SHIFT"
 1Ø2 FOR s=Ø TO 3
 1Ø5 BEEP .1,Ø: BEEP .1,1: BEEP
.Ø7,Ø: BEEP .2,-1
 1Ø6 FOR f=-4Ø TO 4Ø STEP 1Ø: FO
R g=Ø TO .9 STEP .1: BEEP .Ø1,f+
g: NEXT g: NEXT f
 1Ø7 NEXT s
 1Ø8 BEEP 2,3Ø: BEEP 1,35: BEEP
.5,4Ø: BEEP .25,45: BEEP .1,5Ø
 9ØØ CLS : PRINT AT 21,2; PAPER
1; INK 7;" SCORE ";ls;TAB 14; PA
PER 3; INK 7;"       SCORE ";rs:
RANDOMIZE
 91Ø INK 4: BRIGHT 1: FOR f=3 TO
 18 STEP 3: PRINT AT f,5;"T";AT
f-1,26;"T";AT f+1,5;"U";AT f,26;
"U": NEXT f
 911 INK 8
 92Ø FOR f=Ø TO 3: PRINT AT f*6,
14; INK 7;"MN";AT f*6+1,14; INK
2;"OP";AT f*6+2,14; INK 2;"RQ":
NEXT f
 93Ø BRIGHT Ø
1ØØ5 LET z=145: LET x=145
1Ø1Ø FOR q=2Ø TO 2Ø+INT (RND*3ØØ
)
1Ø11 LET a=a-(IN 63486=254 AND x
<>147)+(IN 65278=253 AND x<>147)
+(a<2)-(a>2Ø)
1Ø2Ø LET c=c-(IN 61438=254 AND z
<>15Ø)+(IN 32766=253 AND z<>15Ø)
+(c<2)-(c>2Ø)
1Ø22 IF IN 6451Ø<>255 THEN LET x
=147
1Ø23 IF IN 57342<>255 THEN LET z
=15Ø
1Ø24 IF IN 6451Ø=253 THEN LET x=
145: PRINT AT a-1,1;" "
1Ø25 IF IN 57342=253 THEN LET z=
145: PRINT AT c-1,3Ø;" "
1Ø26 BEEP .ØØ5,-1Ø: BEEP .ØØ5,69
1Ø3Ø IF a>=21 THEN LET a=2: PRIN
T AT 19,Ø;" ";AT 2Ø,Ø;" "
1Ø31 IF a<21 THEN PRINT AT a+1,Ø
;" "
1Ø32 IF c<21 THEN PRINT AT c+1,3
1;" "
1Ø35 PRINT AT Ø,Ø;" ";AT Ø,31;"
"
1Ø4Ø IF c>=21 THEN LET c=2: PRIN
T AT 19,31;" ";AT 2Ø,31;" "
1Ø5Ø IF c>1 THEN PRINT AT c-2,31
;" "
1Ø51 IF c<=1 THEN LET c=2Ø: PRIN
T AT 1,31;" ";AT 2,31;" "
1Ø6Ø IF a>1 THEN PRINT AT a-2,Ø;
" "
1Ø61 IF a<=1 THEN LET a=2Ø: PRIN
T AT 1,Ø;" ";AT 2,Ø;" "
1Ø7Ø PRINT AT a,b; INK 1;CHR$ x;
AT a-1,Ø; INK 1;CHR$ (x-1);AT c,
d; INK 3;CHR$ z;AT c-1,d; INK 3;
CHR$ (z-1)
1Ø8Ø IF x=147 THEN PRINT AT a-1,
1; INK 1;"E"
1Ø81 IF z=15Ø THEN PRINT AT c-1,
3Ø; INK 3;"H"
1Ø9Ø IF IN 65Ø22<>255 AND x=147
THEN GO SUB 3ØØØ
11ØØ IF IN 4915Ø<>255 AND z=15Ø
THEN GO SUB 31ØØ
2ØØØ NEXT q
2Ø1Ø LET q=INT (RND*2)
2Ø11 IF q=1 THEN LET w=c
2Ø12 IF q=Ø THEN LET w=a
```

```
2013 LET r=q*11+9
2015 FOR f=1 TO w-1
2020 PRINT AT f-1,r;"  ";AT f,r;
 INK 7;"MN";AT f+1,r; INK 2;"OP"
;AT 2+f,r; INK 2;"RQ": BEEP Ø.Ø1
,f*3
2030 NEXT f
2040 IF q=1 THEN GO TO 2500
2050 PRINT AT a,r-1; INK 3;"HF"
2060 IF ATTR (a,5)>=64 THEN GO T
O 2200
2100 INK 6: PLOT 54,171-(a*8): D
RAW -5Ø,Ø: BEEP .Ø1,39: DRAW OVE
R 1;5Ø,Ø: GO TO 33ØØ
2220 INK 6: PLOT 54,171-(a*8): D
RAW -11,Ø: BEEP .Ø1,68: PRINT AT
 a,5;"S": DRAW OVER 1;11,Ø: PRIN
T AT a,5;" "
2225 GO SUB 6e3
2231 FOR f=w-1 TO 18
2235 PRINT AT f-1,r;"  ";AT f,r;
 INK 7;"MN";AT f+1,r-1; INK 2;"
OP ";AT 2+f,r; INK 2;"RQ": BEEP
.Ø1,f*3
2236 NEXT f
2239 PRINT AT f-1,r;"  ";AT f,r;
"  ";AT f+1,r;"  "
224Ø GO TO 1Ø1Ø
25ØØ PRINT AT c,r+1; INK 1;"CE"
251Ø IF ATTR (c,26)>=64 THEN GO
TO 26ØØ
252Ø INK 6: PLOT 185,171-(c*8):
DRAW 56,Ø: BEEP .Ø1,6Ø: DRAW OVE
R 1;-56,Ø: GO TO 32ØØ
26ØØ INK 6: PLOT 185,171-(c*8):
DRAW 26,Ø: BEEP .Ø1,68: PRINT AT
 c,26;"S": DRAW OVER 1;-26,Ø
261Ø PRINT AT c,26;" ": GO TO 22
25
3ØØØ IF ATTR (a-1,5)>=64 THEN GO
 TO 4Ø5Ø
3Ø1Ø IF ATTR (a-1,14)>=64 THEN G
O TO 414Ø
3Ø2Ø IF ATTR (a-1,15)>=64 THEN G
O TO 415Ø
3Ø3Ø IF ATTR (a-1,26)>=64 THEN G
O TO 426Ø
3Ø85 INK 7: PLOT 16,179-(a*8): D
RAW 238,Ø: BEEP .Ø1,6Ø: DRAW OVE
R 1;-238,Ø: PLOT OVER 1;254,179-
(a*8)
3Ø9Ø IF a=c OR a-1=c THEN GO SUB
 32ØØ
3Ø99 RETURN
313Ø IF ATTR (c-1,26)>=64 THEN G
O TO 526Ø
316Ø IF ATTR (c-1,15)>=64 THEN G
O TO 515Ø
317Ø IF ATTR (c-1,14)>=64 THEN G
O TO 514Ø
318Ø IF ATTR (c-1,5)>=64 THEN GO
 TO 5Ø5Ø
319Ø PLOT 238,179-(c*8): DRAW -2
35,Ø: BEEP .ØØ5,4Ø: BEEP .ØØ5,5Ø
: DRAW OVER 1;235,Ø: PLOT OVER 1
;3,179-(c*8)
3195 IF c=a OR c-1=a THEN GO SUB
 33ØØ
3199 RETURN
32ØØ PRINT AT c,3Ø; INK 3;"IJ";A
T c-1,3Ø;"  "
32Ø5 LET ls=ls+1
3215 PRINT AT Ø,2; INK 5;"<--THI
S GUN-MAN WINS": FOR f=-6Ø TO 6Ø
: BEEP .Ø1,f: NEXT f
3216 IF ls=1Ø THEN GO TO 36ØØ
322Ø CLS : LET a=INT (RND*19)+2:
 LET c=INT (RND*19)+2: GO TO 9ØØ
33ØØ PRINT AT a,Ø; INK 1;"KL";AT
 a-1,Ø;"  "
33Ø5 LET rs=rs+1
331Ø IF rs=1Ø THEN GO TO 35ØØ
3315 PRINT AT Ø,2; INK 5;"THIS G
UN-MAN WINS-->": FOR f=-6Ø TO 6Ø
: BEEP .Ø1,f: NEXT f
332Ø CLS : LET a=INT (RND*19)+2:
 LET c=INT (RND*19)+2: GO TO 9ØØ
35ØØ CLS : FOR f=Ø TO 9: PRINT A
T f,Ø; INK 1;"KL": BEEP .5,Ø: NE
XT f
351Ø FOR f=1 TO ls: PRINT AT f,3
Ø; INK 3;"IJ": BEEP .5,Ø: NEXT f
352Ø INK 3: FOR f=21 TO 2Ø+1Ø-ls
: PRINT AT 1Ø,f;"A";AT 11,f;"B":
 BEEP 1,f*2/3: NEXT f
353Ø INK 5: PRINT AT 15,2;"THE F
ASTEST SHOT---->"
3599 GO TO 7e3
36ØØ CLS : FOR f=Ø TO 9: PRINT A
T f,3Ø; INK 3;"IJ": BEEP .5,Ø: N
EXT f
```

```
3610 FOR f=1 TO rs: PRINT AT f,0
; INK 1;"KL": BEEP .5,0: NEXT f
3620 INK 1: FOR f=1 TO 10-rs: PR
INT AT 10,f;"A";AT 11,f;"B": BEE
P 1,f*5: NEXT f
3630 INK 5: PRINT AT 15,2;"<----
THE FASTEST SHOT"
3700 GO TO 7e3
4050 PLOT 16,179-(a*8): DRAW 30,
0: BEEP .02,-10: DRAW OVER 1;-30
,0: PRINT AT a-1,5;"S": BEEP .00
5,0: PRINT AT a-1,5;" "
4059 RETURN
4140 PLOT 16,179-(a*8): DRAW 99,
0: BEEP .02,-10: DRAW OVER 1;-99
,0: PRINT AT a-1,14;"S": BEEP .0
05,0: PRINT AT a-1,14;" "
4149 RETURN
4150 PLOT 16,179-(a*8): DRAW 110
,0: BEEP .02,-10: DRAW OVER 1;-1
10,0: PRINT AT a-1,15;"S": BEEP
.005,0: PRINT AT a-1,15;" "
4159 RETURN
4260 PLOT 16,179-(a*8): DRAW 197
,0: BEEP .02,-10: DRAW OVER 1;-1
97,0: PRINT AT a-1,26;"S": BEEP
.005,0: PRINT AT a-1,26;" "
4269 RETURN
5050 PLOT 238,179-(c*8): DRAW -1
93,0: BEEP .02,-5: DRAW OVER 1;1
93,0: PRINT AT c-1,5;"S": BEEP .
005,5: PRINT AT c-1,5;" "
5059 RETURN
5140 PLOT 238,179-(c*8): DRAW -1
21,0: BEEP .02,-5: DRAW OVER 1;1
21,0: PRINT AT c-1,14;"S": BEEP
.005,5: PRINT AT c-1,14;" "
5149 RETURN
5150 PLOT 238,179-(c*8): DRAW -1
12,0: BEEP .02,-5: DRAW OVER 1;1
12,0: PRINT AT c-1,15;"S": BEEP
.005,5: PRINT AT c-1,15;" "
5159 RETURN
5260 PLOT 238,179-(c*8): DRAW -2
3,0: BEEP .02,-5: DRAW OVER 1;23
,0: PRINT AT c-1,26;"S": BEEP .0
05,5: PRINT AT c-1,26;" "
5269 RETURN
5999 STOP
6000 FOR v=-40 TO 60 STEP 20: FO
R s=40 TO -60 STEP -20: BEEP .01
,s: BEEP .01,v: NEXT s: NEXT v:
RETURN
7000 PRINT "AGAIN?": IF INKEY$<>
"" THEN RUN
7001 GO TO 7e3
```

Monsters

The object of MONSTERS is to move your man from the bottom level to the middle of the top level by means of ladders. The monsters descend from the top level and should they hit your man, a life is lost. Scoring is calculated by the amount of oxygen remaining when the man reaches the centre of the top layer. The game includes full instructions. (16K Spectrum)

```
   1 LET a$="?": LET sh=Ø
   2 LET s=Ø: LET ox=15ØØ
   3 LET l=3
   4 GO SUB 7ØØØ
  1Ø BORDER Ø: PAPER Ø: INK 7: F
LASH Ø: BRIGHT Ø: INVERSE Ø: OVE
R Ø: CLS
  11 RESTORE
  12 LET q=Ø: LET p=3: LET qinc=
1
  13 LET ql=3Ø: LET pl=3: LET ql
inc=-1
  2Ø GO SUB 2ØØØ
  3Ø GO SUB 21ØØ
  35 GO SUB 45ØØ
  4Ø LET y=18: LET x=Ø: LET yl=y
: LET xl=x
  5Ø PRINT INK 5; OVER 1;AT y,x;
"F";AT y+1,x;"I"
  6Ø BEEP .Ø1,y: IF (x=q AND y=(
p-1)) OR (x=ql AND y=(pl-1)) THE
N GO TO 5ØØØ
  61 FOR h=1 TO 2
  62 GO SUB 3ØØØ
  64 GO SUB 4ØØØ
  65 IF (x=q AND y=(p-1)) OR (x=
ql AND y=(pl-1)) THEN GO TO 5ØØØ
  66 NEXT h: LET ox=ox-1Ø: LET d
$=STR$ ox
  67 IF LEN d$=4 THEN GO TO 69
  68 FOR j=1 TO 4-LEN d$: LET d$
="Ø"+d$: NEXT j
  69 PRINT AT 21,8;d$: IF ox=Ø T
HEN GO TO 5ØØØ
  7Ø PRINT INK 6; OVER 1;AT y,x;
"F";AT y+1,x;"I"
 15Ø LET xl=xl+(INKEY$="p")-(INK
EY$="o")
 16Ø LET yl=yl+(INKEY$="c")-(INK
EY$="d")
 17Ø IF ATTR (y+2,xl)=2 OR (ATTR
 (y+2,xl)=2 AND SCREEN$ (y+2,xl)
="") THEN LET x=xl
 18Ø IF SCREEN$ (yl+2,x)="" THEN
 LET y=yl
 19Ø LET yl=y: LET xl=x
 199 IF y=2 AND x=16 THEN LET s=
s+ox: GO SUB 6ØØØ
 2ØØ GO TO 5Ø
2ØØØ FOR i=Ø TO 7: READ a: POKE
USR "a"+i,a: NEXT i: DATA 255,12
6,126,231,231,255,Ø,Ø
2Ø1Ø FOR i=Ø TO 7: READ a: POKE
USR "b"+i,a: NEXT i: DATA 129,12
9,255,255,129,129,255,255
2Ø2Ø FOR i=Ø TO 7: READ a: POKE
USR "c"+i,a: NEXT i: DATA 1Ø2,15
3,6Ø,255,153,255,255,85
2Ø3Ø FOR i=Ø TO 7: READ a: POKE
USR "f"+i,a: NEXT i: DATA 24,6Ø,
6Ø,6Ø,9Ø,189,189,189
2Ø4Ø FOR i=Ø TO 7: READ a: POKE
USR "i"+i,a: NEXT i: DATA 6Ø,6Ø,
6Ø,24,36,36,36,36
2Ø9Ø RETURN
21ØØ PRINT "Score:";s,"Hi score:
";sh,,"by ";a$
211Ø INK 2: FOR i=2Ø TO 4 STEP -
4: PRINT AT i,Ø;"AAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAA": NEXT i
212Ø INK 4: PRINT AT 21,Ø;"(isp)
OXYGEN:"; INK 7;"15ØØ"; INK 4;"(
7*isp)Life:";l;"(7*isp)"
213Ø INK 6: FOR y=4 TO 16 STEP 4
: LET a=INT (RND*29)+1
214Ø FOR n=Ø TO 3: PRINT AT y+n,
a;"B": NEXT n: NEXT y
215Ø RETURN
3ØØØ OVER 1: PRINT AT p,q; INK 6
;"C"
3Ø1Ø IF ATTR (p+1,q)<>2 THEN LET
 p=p+1: GO TO 3Ø21
3Ø2Ø LET q=q+qinc: IF q<Ø OR q>3
Ø THEN LET qinc=-SGN qinc: GO TO
 3Ø2Ø
3Ø21 PRINT AT p,q; INK 4;"C"
3Ø25 IF q=Ø AND p=19 THEN LET q=
Ø: LET p=3: PRINT OVER Ø; INK 6;
AT 19,Ø;" "
3Ø3Ø OVER Ø: RETURN
4ØØØ OVER 1: PRINT AT pl,ql; INK
 6;"C"
4Ø1Ø IF ATTR (pl+1,ql)<>2 THEN L
ET pl=pl+1: GO TO 4Ø21
4Ø2Ø LET ql=ql+qlinc: IF ql<Ø OR
 ql>3Ø THEN LET qlinc=-SGN qlinc
: GO TO 4Ø2Ø
4Ø21 PRINT AT pl,ql; INK 4;"C"
4Ø25 IF ql=3Ø AND pl=19 THEN LET
 ql=3Ø: LET pl=3: PRINT OVER Ø;
```

```
INK 6;AT 19,30;" "
4030 OVER 0: RETURN
4500 FOR i=1 TO 12: READ a: BEEP
 .4,a+12: NEXT i: DATA 1,3,5,7,2
,4,6,8,10,12,0,7
4510 PAUSE 0: RETURN
5000 FOR i=30 TO 0 STEP -2: BEEP
 .01,i: BEEP .005,i+30: NEXT i
5005 FOR i=1 TO 200: NEXT i
5010 LET l=l-1: IF l=0 THEN GO T
O 5100
5020 LET ox=1500
5030 GO TO 10
5100 IF s>sh THEN LET sh=s: INPU
T "Name:";a$
5110 GO TO 2
6000 FOR i=1 TO 5: READ a: BEEP
 .3,a: NEXT i: DATA 14,16,12,0,7
6005 LET ox=1500
6010 GO TO 10
7000 BORDER 1: PAPER 1: INK 7: C
LS
7010 PRINT INK 6;TAB (12);"Monst
ers"
7020 PRINT ''"Object of game is
to get to the middle of the top
bar."'"Without running out of ox
ygen   or getting killed."''"Key
s to Use."''"c to go down"'"d to
 go up"'"p to go right"'"o to go
 left"
7030 PRINT INK 4;''"    Press an
y key to begin.": PAUSE 0: RETUR
N
```

Pathway

Move around the grid avoiding the blue squares but being sure to cross all the yellow squares before leaving by the exit. The catch is that all moves must be entered in advance. Enter them as 'F'-forward, 'B'-backward, 'L'-left, 'R'-right and 'S' when you have entered your moves to start your arrow moving. PATHWAY runs on the 16K Spectrum.

```
  4Ø POKE 23658,8
  5Ø LET Y=1
  6Ø LET SC=Ø
  7Ø LET J=Ø
  8Ø LET PH=18
  9Ø GO SUB 76Ø
 1ØØ FOR a=USR "a" TO USR "D"+7
 11Ø READ q: POKE a,q: NEXT a
 12Ø DATA BIN 1111111,BIN 1ØØØØ
ØØ1,BIN 1ØØØØØØ1,BIN 1ØØØØØØ1,BI
N 1ØØØØØØ1,BIN 1ØØØØØØ1,BIN 1ØØØ
ØØØ1,BIN 1111111
 13Ø DATA BIN ØØØØØØØØ,BIN ØØØ1Ø
ØØ,BIN ØØØØØ1ØØ,BIN Ø111111Ø,BIN
 ØØØØØ1ØØ,BIN ØØØØ1ØØØ,Ø,Ø
 14Ø DATA Ø,BIN ØØØ1ØØØØ,BIN ØØ1
ØØØØØ,BIN Ø111111Ø,BIN ØØ1ØØØØØ,
BIN ØØØ1ØØØØ,Ø,Ø
 15Ø DATA Ø,BIN ØØØØ1ØØØ,BIN ØØØ
Ø1ØØØ,BIN ØØØØ1ØØØ,BIN ØØ1Ø1Ø1Ø,
BIN ØØØ111ØØ,BIN ØØØØ1ØØØ,Ø
 16Ø FOR b=Ø TO 18
 17Ø PRINT AT B,Ø; INK Ø; BRIGHT
 1;"AAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAA"; BRIGHT Ø
 18Ø NEXT b
 2ØØ FOR A=1 TO 8Ø+(X*3*1Ø)
 21Ø LET A1=INT (RND*18)
 22Ø LET A2=INT (RND*32)
 23Ø PRINT AT A1,A2; INK 1; PAPE
R 1;"."
 24Ø NEXT A
 25Ø FOR A=1 TO 3
 26Ø LET Y1=INT (RND*31)+1
 27Ø LET Y2=INT (RND*17)
 28Ø PRINT AT Y2,Y1; PAPER 6; IN
K 6;"T"
 29Ø NEXT A
 295 PRINT AT Ø,Ø; INK Ø; PAPER
Ø;"+"
 3ØØ REM ENTER DIRECTIONS
 31Ø DIM D$(2ØØ,1)
 32Ø PRINT AT 21,Ø; FLASH 1;"
  PRESS ENTER TO START        "
 33Ø PAUSE Ø
 34Ø PRINT AT 21,Ø;"
                              "
 35Ø LET PV=INT (RND*31)+1
 36Ø PRINT AT 18,PV; FLASH 1;"↑"
 37Ø PRINT AT 2Ø,Ø;
 38Ø FOR A=1 TO 2ØØ
 39Ø PAUSE Ø
 4ØØ IF INKEY$="L" OR INKEY$="S"
 OR INKEY$="R" OR INKEY$="F" OR
INKEY$="B" THEN GO TO 43Ø
 41Ø IF INKEY$=" " THEN GO TO 39
Ø
 42Ø GO TO 39Ø
 43Ø IF INKEY$="S" THEN GO TO 48
Ø
 44Ø LET D$(A)=INKEY$
 45Ø PRINT INKEY$;: IF A=31 OR A
=62 OR A=93 OR A=124 OR A=165 TH
EN PRINT AT 2Ø,Ø;"
                    ": PRINT AT 2Ø
,Ø;
 46Ø BEEP .Ø5,-1Ø: BEEP .Ø5,1Ø
 47Ø NEXT A
 48Ø LET A1=A
 49Ø PRINT AT 2Ø,Ø;"
                               "
 5ØØ FOR A=1 TO 2ØØ
 52Ø LET PHL=PH: LET PVL=PV
 53Ø IF A=A1 THEN GO TO 67Ø
 54Ø IF D$(A)="F" THEN LET PH=PH
-1: LET O$="↑"
 55Ø IF D$(A)="R" THEN LET PV=PV
+1: LET O$="B"
 56Ø IF D$(A)="L" THEN LET PV=PV
-1: LET O$="C"
 57Ø IF D$(A)="B" THEN LET PH=PH
+1: LET O$="D"
 58Ø IF SCREEN$ (PH,PV)="." THEN
 LET Y=Ø
 59Ø IF SCREEN$ (PH,PV)="T" THEN
 LET SC=SC+1: BEEP .5,4Ø
 6ØØ IF SCREEN$ (PH,PV)="+" AND
SC=3 THEN GO TO 71Ø
 61Ø PRINT OVER 1;AT PH,PV;O$
 62Ø PRINT AT 19,Ø;D$(A)
 63Ø PRINT AT PHL,PVL; BRIGHT 1;
 PAPER 7;"A"
 64Ø IF Y=Ø THEN GO TO 67Ø
 65Ø BEEP .Ø3,3Ø: BEEP .Ø3,Ø: BE
EP .Ø3,3Ø
 66Ø NEXT A
 67Ø PRINT AT 21,Ø; FLASH 1; PAP
ER 6; INK Ø;"        YOU HAVE CR
ASHED    "
 68Ø BEEP .3,1Ø: BEEP .3,2Ø
```

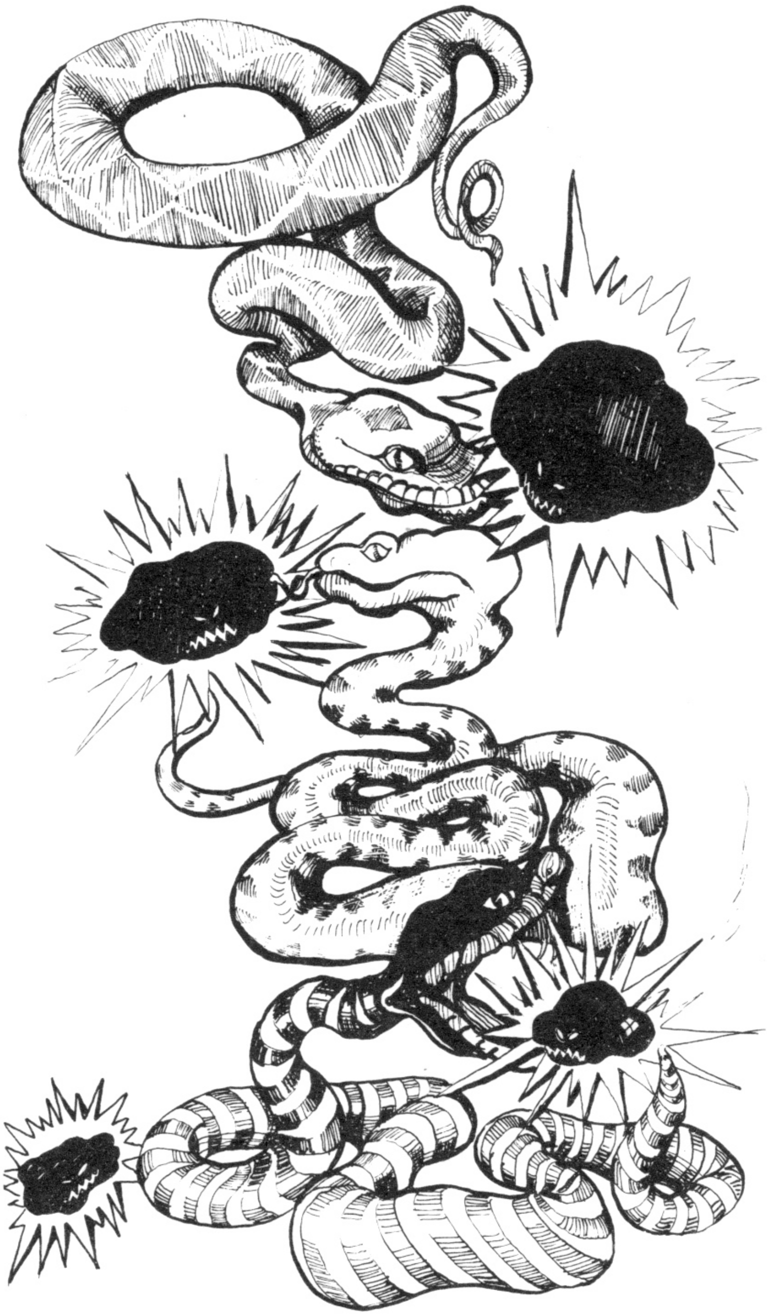
```
 690 IF INKEY$="" THEN GO TO 670
 700 RUN
 710 PRINT AT 21,0; FLASH 1; INK
 1; PAPER 6;"              WELL DO
NE           "
 720 BEEP .3,30: BEEP .3,35
 730 IF INKEY$="" THEN GO TO 710
 740 PRINT AT 20,11;"SCORE=";A
 750 RUN
 760 CLS
 770 PRINT "      ENTER DIFFICULT
Y NO.": PRINT
 780 PRINT "  1-EASY": PRINT "  
2-HARD": PRINT "  3-IMPOSSIBLE"
 790 PAUSE 0
 800 LET X=VAL INKEY$
 810 RETURN
```

Fryolites

In this program you are a rainbow coloured snake whose aim is to cover as much of the screen as possible. You are opposed by the evil flashing blobs known as FRYOLITES. Each time you land on one of them you are fried and you lose one of your 3 lives.

If you land on your tail you scare yourself to death, thinking that you have met a Fryolite. Move using the usual cursor keys.

Graphics letters to be used are: 75-A; 80-A; 100-A; 110-B; 120-C; 130-D; 165-A, E; 170-B, E; 175-C, E; 180-D, E.



```
1 BRIGHT 1: INK 7: PAPER Ø
: BORDER Ø: CLS : PLOT Ø,Ø: DRAW
 255,Ø: DRAW Ø,175: DRAW -255,Ø:
 DRAW Ø,-175: LET hc=Ø
   2 LET cd=2Ø: LET men=3
   3 LET c=Ø: LET x=Ø
   5 LET w=1
  1Ø DATA Ø,Ø,BIN ØØØ11ØØØ,BIN Ø
Ø1111ØØ,BIN Ø1Ø11Ø1Ø,BIN Ø1Ø11Ø1
Ø,BIN Ø111111Ø,BIN Ø111111Ø
  2Ø DATA Ø,BIN 1111ØØØØ,BIN 11Ø
Ø1ØØØ,BIN 111111ØØ,BIN 111111ØØ,
BIN 11111ØØØ,BIN 1111ØØØØ,Ø
  3Ø DATA BIN Ø111111Ø,BIN Ø1111
11Ø,BIN Ø1Ø11Ø1Ø,BIN Ø1Ø11Ø1Ø,BI
N ØØ1111ØØ,BIN ØØØ11ØØØ,Ø,Ø
  4Ø DATA Ø,BIN ØØØØ1111,BIN ØØØ
1ØØ11,BIN ØØ111111,BIN ØØ111111,
BIN ØØØ11111,BIN ØØØØ1111,Ø
  5Ø DATA Ø,BIN ØØ1111ØØ,BIN Ø11
1111Ø,BIN Ø111111Ø,BIN Ø111111Ø,
BIN Ø111111Ø,BIN ØØ1111ØØ,Ø
  6Ø RESTORE 1Ø: FOR d=144 TO 14
8: FOR e=Ø TO 7: READ q: POKE US
R CHR$ (d)+e,q: NEXT e: NEXT d
  65 FOR f=1 TO 2Ø: PRINT AT INT
 (RND*2Ø)+1,INT (RND*3Ø)+1; FLAS
H 1;"E": BEEP .ØØ4,(f-INT (RND*4
))+1Ø: NEXT f
  7Ø LET a=INT (RND*2Ø)+1: LET b
=INT (RND*3Ø)+1
  75 PRINT AT a,b; FLASH 1;"A":
FOR f=1 TO 2ØØ: NEXT f: PRINT AT
 a,b;" "
  8Ø LET z$="A"
  9Ø LET a$=INKEY$
  95 IF a$="" THEN LET a$=z$
  97 LET c=c+1: LET x=x+1: IF x=
38Ø THEN GO TO 3ØØ
 1ØØ IF INKEY$="7" THEN LET z$="
A"
 11Ø IF INKEY$="8" THEN LET z$="
B"
 12Ø IF INKEY$="6" THEN LET z$="
C"
 13Ø IF INKEY$="5" THEN LET z$="
D"
 14Ø PRINT AT a,b; OVER 1;z$: BE
EP .ØØ6,15-w+1Ø
 15Ø FOR g=1 TO cd: NEXT g
 165 IF z$="A" THEN LET a=a-1: P
RINT AT a+1,b;"E"
 17Ø IF z$="B" THEN LET b=b+1: P
RINT AT a,b-1;"E"
 175 IF z$="C" THEN LET a=a+1: P
RINT AT a-1,b;"E"
 18Ø IF z$="D" THEN LET b=b-1: P
RINT AT a,b+1;"E"
 185 IF a=21 OR a=Ø OR b=Ø OR b=
31 THEN GO TO 21Ø
 19Ø IF POINT (b*8+5,175-a*8-4)=
1 THEN GO TO 21Ø
 192 LET w=w+1: IF w=7 THEN LET
w=1
 193 INK w
 2ØØ GO TO 9Ø
 21Ø PRINT AT a,b;z$
 22Ø FOR f=1 TO 3Ø: BEEP .ØØ4,IN
T (RND*2Ø): PRINT AT a,b; FLASH
1;"O": NEXT f: CLS : LET men=men
-1
 23Ø IF men=Ø THEN GO TO 26Ø
 24Ø INK 7: PLOT Ø,Ø: DRAW 255,Ø
: DRAW Ø,175: DRAW -255,Ø: DRAW
Ø,-175
 25Ø LET w=1: LET x=Ø: GO TO 65
 26Ø INK 7: PRINT INK 7;"BAD LUC
K!!!    You scored ";c;"
    points": IF c>hc THEN PRINT
AT 13,Ø;"Well done anyway... You
 have a  high score of ";c: LET
hc=c
 265 IF c<hc THEN PRINT INK 7;AT
 13,Ø;"  The high score is ";hc
 27Ø INK 7: INPUT "Do you want a
nother go ?";a$
 28Ø IF a$="y" OR a$="Y" THEN CL
S : PLOT Ø,Ø: DRAW 255,Ø: DRAW Ø
,175: DRAW -255,Ø: DRAW Ø,-175:
GO TO 2
 29Ø STOP
 3ØØ LET cd=cd-3: IF cd<Ø THEN G
O TO 34Ø
 31Ø FOR f=1 TO 1ØØ: NEXT f: CLS
 : PRINT INK 7;"Well done you sc
ored enough       points to escape
 the fryolites. You must now try
 at a faster      speed"
 32Ø FOR f=1 TO 7ØØ: NEXT f: CLS
 : INK 7: PLOT Ø,Ø: DRAW 255,Ø:
```

```
DRAW Ø,175: DRAW -255,Ø: DRAW Ø,
-175
 325 LET x=Ø
 33Ø GO TO 65
 34Ø PRINT INK 7;AT 5,Ø;"Well do
ne !!! You have beaten   all the
 fryolites... "
 35Ø BEEP .15,Ø: BEEP .15,2: BEE
P .15,4: BEEP .15,2: BEEP .15,Ø:
 BEEP .15,2: BEEP .3,4: PAUSE 2:
 BEEP .3,Ø: PAUSE 2: BEEP .3,Ø
 36Ø PRINT : PRINT : PRINT AT 1Ø
,Ø; INK 7;"Do you want another g
ame ?"
 37Ø INPUT a$: IF a$="Y" OR a$="
y" THEN CLS : INK 7: PLOT Ø,Ø: D
RAW 255,Ø: DRAW Ø,175: DRAW -255
,Ø: DRAW Ø,-175: GO TO 2
```

Olympia

Your horse gallops around the arena, aiming to complete the course with as few faults as possible. Jumping over fences either too soon or too late adds 4 faults to your total. On the lower levels you are allowed certain margins of error, but on the top level you must always jump in exactly the proper place. Jump by pressing '0'. For the 16K Spectrum.

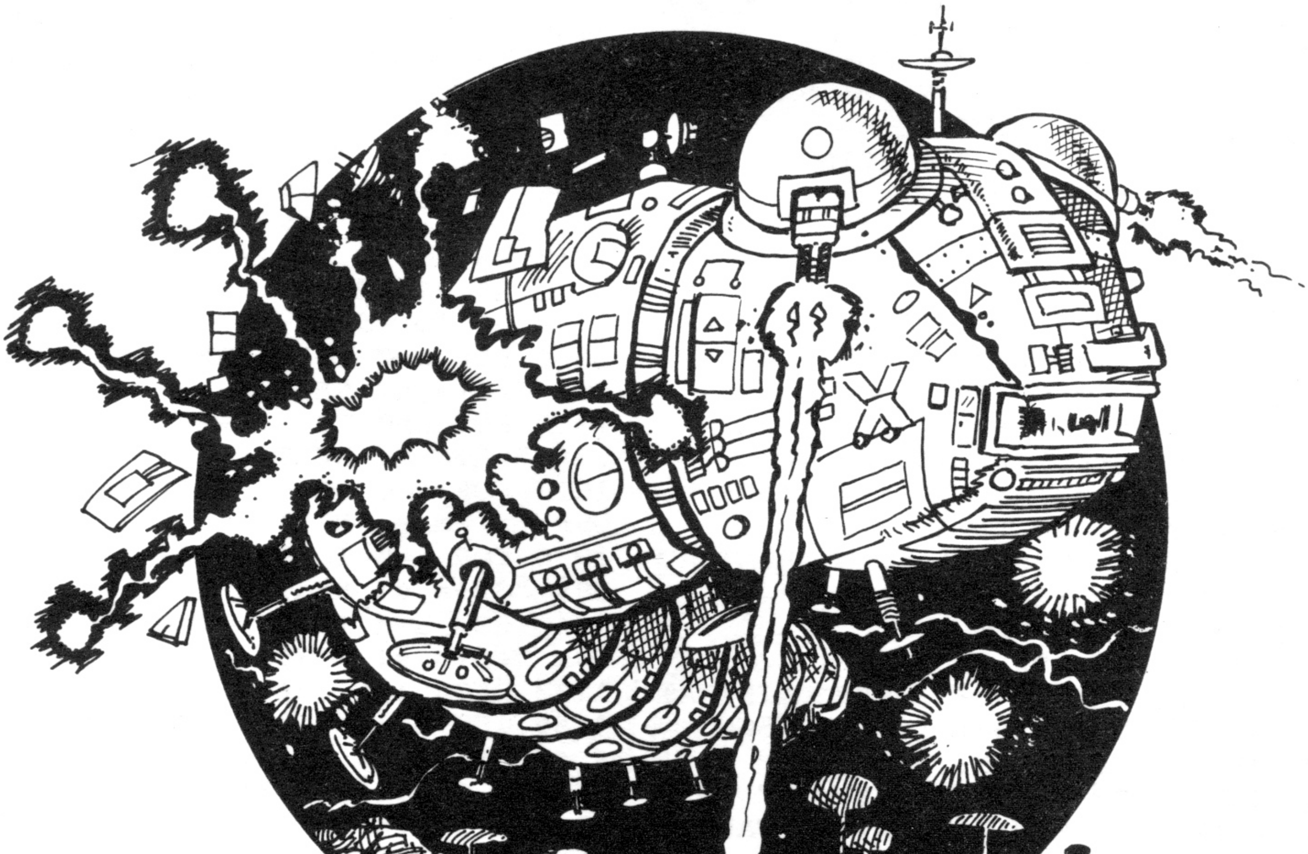
Graphics note: The '£' signs in line 30 should all be entered as shifted '3's.

```
  15 BORDER 7: PAPER 6: INK Ø
  18 GO SUB 1ØØØ
  21 PRINT "          OLYMPIA
     "
  23 LET b=.ØØ2: LET hs=8Ø: LET
y=4: LET a=17
  25 PRINT AT 5,Ø;"       LEVEL (H
ARD)1-9(EASY)       ": PAUSE Ø: IF
 INKEY$<"1" OR INKEY$>"9" THEN G
O TO 25
  26 LET p=VAL INKEY$
  27 CLS : LET s=Ø: LET f=Ø
  28 PRINT AT 8,Ø; FLASH 1;"## I
NTERNATIONAL  SHOWJUMPING ##"
  29 PRINT AT 4,5;"WINNING ROUND
 SO FAR";"=";hs
  3Ø PLOT Ø,31: DRAW 255,Ø: PRIN
T AT 14,Ø;"########### OLYMPIA #
###########"
  32 FOR c=Ø TO 31: FOR v=9 TO 1
3: PRINT AT v,c; INK Ø; PAPER 5;
"D": NEXT v: NEXT c
  33 FOR l=Ø TO 31: PRINT AT 19,
l; INK 4;"E": NEXT l
  35 FOR x=3Ø TO Ø STEP -1: PRIN
T AT 17,x+1;" ";AT 17,x; INK 2;"
C"
  4Ø PRINT AT 17,Ø;" "
  45 IF s=2Ø THEN GO TO 7ØØ: IF
x=Ø THEN GO TO 35
  5Ø PRINT AT a,y;"BA"
  6Ø IF x=6 THEN GO SUB 3ØØ
 2ØØ BEEP b,1Ø: PAUSE 1: BEEP b,
5: NEXT x: GO TO 35
 3ØØ IF INKEY$="Ø" THEN PRINT AT
2Ø,Ø;"TOO EARLY 4 FAULTS": LET
f=f+4: GO TO 5ØØ
 3Ø5 PAUSE p*1.5
 31Ø IF INKEY$="Ø" THEN PRINT AT
2Ø,Ø;"JUST RIGHT": GO TO 5ØØ
 315 PAUSE p*1.5
 32Ø PAUSE Ø: IF INKEY$="Ø" THEN
 PRINT AT 2Ø,Ø;"TO LATE 4 FAULTS
": LET f=f+4: GO TO 5ØØ
 5ØØ LET s=s+1
 5Ø5 PRINT AT a,y;"  ": LET a=a-
1: LET y=y+1: PRINT AT a,y;"BA"
 5Ø7 PAUSE 5
 51Ø PRINT AT a,y;"  ": LET y=y+
1: PRINT AT a,y;"BA"
 517 PAUSE 5
 52Ø PRINT AT a,y;"  ": LET y=y+
1: LET a=a+1: PRINT AT a,y;"BA"
 53Ø PAUSE 5
 535 PRINT AT a,y;"  "
 54Ø LET y=y-3: PRINT AT a,y;"BA
"
 545 PRINT AT 2Ø,Ø;"
     "
 547 PRINT AT 17,x;" ": LET x=x-
3: NEXT x
 55Ø GO TO 35
 7ØØ IF f=Ø THEN PRINT AT 1,Ø;"Y
OU HAD A CLEAR ROUND,WELL DONE"
 72Ø PRINT AT 1,1;"HARD LUCK YOU
 COMPLETED THE     ROUND WITH ";
f;" FAULTS"
 725 IF f<hs THEN PRINT AT 5,1;"
YOUR ROUND WAS THE BEST TODAY":
PAUSE 5Ø: LET hs=f
 73Ø PRINT AT 1Ø,2;"PRESS ANY KE
Y TO START AGAIN! ": PAUSE Ø
 74Ø GO TO 25
1ØØØ FOR a=Ø TO 7: READ s: POKE
USR "a"+a,s: NEXT a
1Ø1Ø FOR a=Ø TO 7: READ s: POKE
USR "b"+a,s: NEXT a
1Ø2Ø FOR a=Ø TO 7: READ s: POKE
USR "c"+a,s: NEXT a
1Ø3Ø FOR a=Ø TO 7: READ s: POKE
USR "d"+a,s: NEXT a
1Ø4Ø FOR a=Ø TO 7: READ s: POKE
USR "e"+a,s: NEXT a
11ØØ DATA 128,136,254,254,246,22
4,96,16Ø,Ø,1,49,15,31,15,26,34,2
4,6Ø,36,6Ø,36,6Ø,1Ø2,255,Ø,238,1
7Ø,17Ø,255,17,85,85,24,36,6Ø,9Ø,
126,36,6Ø,24
15ØØ RETURN
```

Specvaders

The search for a Space Invaders game with all the features of the arcade version continues. The major problem remains one of speed. SPECVADERS overcomes this to some degree thanks to some clever lateral thinking. The invaders in the sky are unaggressive and do not shoot. Directly above you, however, is a giant centipede which shoots to defend the invaders.

Because of its proximity it is far more difficult to avoid the centipede's shots than it would be to avoid the shots of the more distant invaders. For the 16K Spectrum.



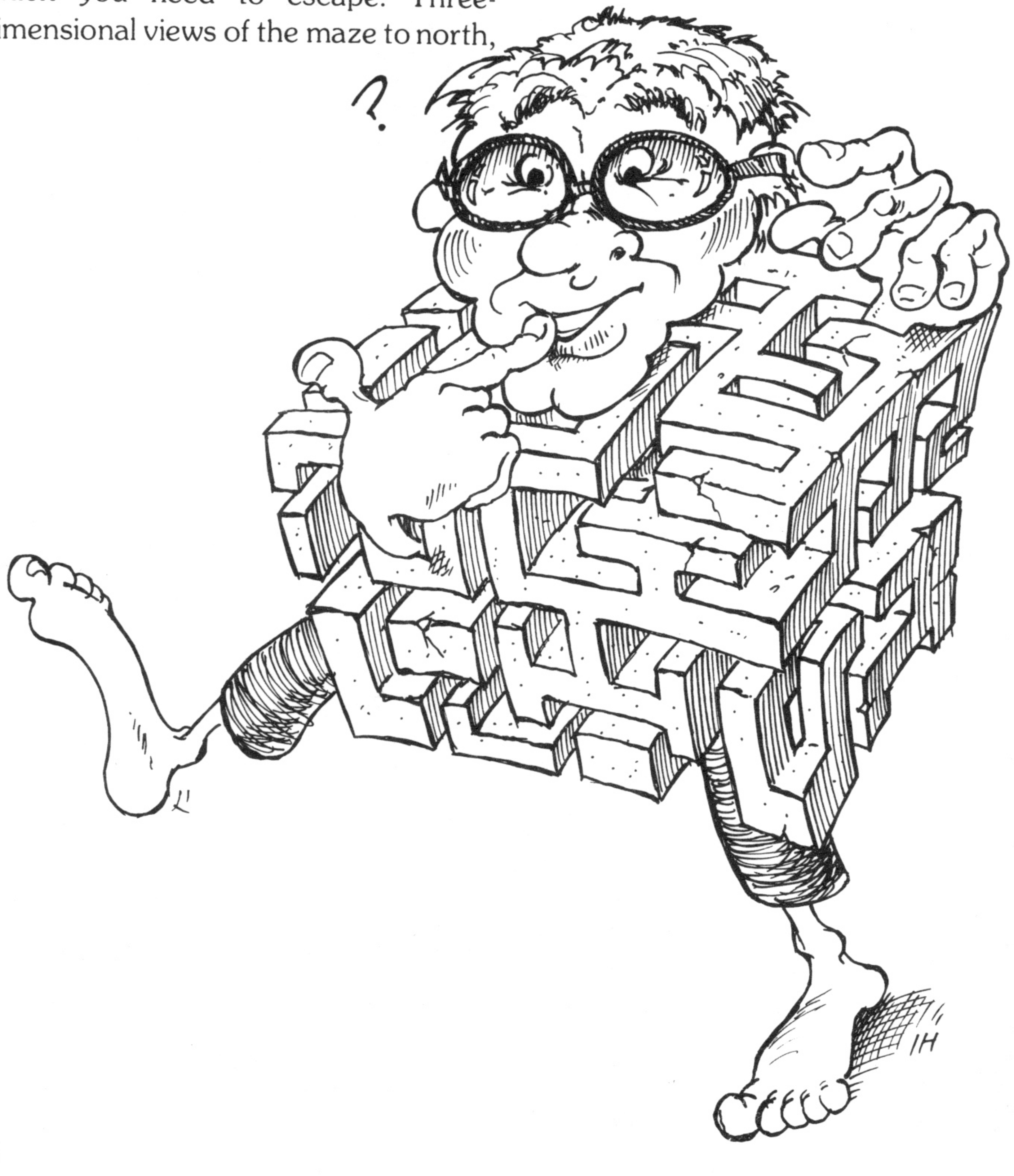
```
   15 CLS : PAPER Ø: INK 7: BOR
DER 1: CLS
  25 REM SET UP VARIABLES,CLEAR
SCREEN AND GIVE INSTRUCTIONS
  3Ø LET hs=Ø
  4Ø CLS : PAPER Ø: INK 7: BORDE
R 1: CLS
  5Ø GO SUB 9Ø5Ø
  9Ø LET c=Ø
 1ØØ LET l=3
 15Ø CLS
 19Ø REM SET UP U.D.G.s
 2ØØ LET s=Ø
 2Ø5 RESTORE 26Ø
 21Ø FOR r=1 TO 8
 22Ø READ d$
 23Ø FOR u=Ø TO 7
 24Ø READ a: POKE USR d$+u,a: NE
XT u
 25Ø NEXT r
 255 REM DATA FOR U.D.G.s
 26Ø DATA "a",231,36,126,126,126
,126,36,231
 27Ø DATA "b",8,85,127,55,62,28,
34,65
 28Ø DATA "c",6Ø,1Ø2,1Ø2,219,219
,126,9Ø,129
 29Ø DATA "d",Ø,Ø,24,6Ø,126,255,
255,255
 3ØØ DATA "e",Ø,24,6Ø,9Ø,153,153
,255,9Ø
 31Ø DATA "f",Ø,24,6Ø,126,255,25
5,66,66
 32Ø DATA "g",Ø,85,255,251,251,Ø
,223,223
 33Ø DATA "h",129,8,33,4,8Ø,4,16
Ø,9
 39Ø REM MAIN PLAY LOOP
 4ØØ LET a=15
 4Ø2 PRINT INK Ø; PAPER 3;AT Ø,2
2;"HIGH: ";hs
 4Ø3 PRINT AT Ø,Ø; INK Ø; PAPER
3;"SCORE:"
 4Ø5 PRINT INK 4;AT 21,Ø;"LIVES
D D D"
 41Ø LET x=6: LET y=6: LET z=6
 412 LET h=2Ø
 415 DIM x$(3,h)
 42Ø LET x$(1)="  A A A A A A A
A A "
 43Ø LET x$(2)="  B B B B B B B
B B "
 44Ø LET x$(3)="  C C C C C C C
C C "
 47Ø IF h<Ø THEN LET h=2
 5ØØ PRINT INK 4; PAPER Ø; BRIGH
T 1;AT 1,x;x$(1,2 TO h)
 52Ø PRINT INK 2; PAPER Ø; BRIGH
T 1;AT 3,y;x$(2,2 TO h)
 54Ø PRINT INK 6; PAPER Ø; BRIGH
T 1;AT 5,z;x$(3,2 TO h)
 56Ø IF l<=Ø THEN PRINT AT 21,6;
"    ": GO TO 9ØØØ
 6ØØ PRINT INK 6; PAPER Ø;AT 2Ø,
a;" D "
 64Ø IF INKEY$="q" THEN GO TO 7Ø
ØØ
 65Ø IF INKEY$=" " THEN GO SUB 5
ØØØ
 66Ø IF INKEY$="a" AND a>2 THEN
LET a=a-1
 665 IF INKEY$="d" AND a<27 THEN
 LET a=a+1
 67Ø PRINT INK 6; PAPER Ø;AT 2Ø,
a;" D "
 68Ø GO SUB 2ØØØ
 69Ø LET g=INT (RND*3): IF g=Ø T
HEN LET x=x+1
 7ØØ IF g=1 THEN LET y=y+1
 71Ø IF g=2 THEN LET z=z+1
 72Ø IF x>7 THEN LET x=6
 73Ø IF y>7 THEN LET y=6
 74Ø IF z>7 THEN LET z=6
 75Ø PRINT INK 5; PAPER 2;AT 2Ø,
Ø;"GG";AT 2Ø,3Ø;"GG"
 76Ø GO TO 47Ø
199Ø REM MOVE CENTIPEDE
2ØØØ PRINT INK 2; PAPER Ø;AT 16,
c;" FFFE "
2ØØ5 PRINT AT 16,26; INK 5; PAPE
R Ø;"GGGGGG"
2ØØ7 PRINT AT 16,Ø; INK 5;"GGGGG
G"
2Ø1Ø LET c=c+1: BEEP .ØØ1,2Ø: IF
 c>25 THEN LET c=6
2Ø2Ø LET d=INT (RND*3)
2Ø25 INK 7
2Ø3Ø IF d<>Ø THEN GO TO 3ØØØ
2Ø4Ø PLOT OVER 1;c*8+32,39: DRAW
 OVER 1;Ø,-25: BEEP .ØØ9,3Ø: PLO
```

```
T OVER 1;c*8+8,39: DRAW OVER 1;Ø
,-25: PLOT OVER 1;c*8+32,39: DRA
W OVER 1;Ø,-25: PLOT OVER 1;c*8+
8,39: DRAW OVER 1;Ø,-25
2Ø5Ø PRINT INK 4; PAPER Ø;AT 16,
c;" FFFE "
2Ø55 PRINT AT 16,26; INK 5; PAPE
R Ø;"GGGGGG"
2Ø6Ø IF c>25 THEN LET c=Ø
2Ø7Ø IF CODE SCREEN$ (2Ø,c+4)<>3
2 THEN GO SUB 8ØØØ: GO TO 3ØØØ
2Ø8Ø IF CODE SCREEN$ (2Ø,c+1)<>3
2 THEN GO SUB 8ØØØ: GO TO 3ØØØ
3Ø1Ø RETURN
499Ø REM FIRE LAZER AND TEST IF
HIT
5ØØØ IF SCREEN$ (16,a+1)="" THEN
 GO TO 51ØØ
5Ø1Ø PLOT OVER 1;a*8+12,16: DRAW
 OVER 1;Ø,15Ø: BEEP .Ø2,4Ø: PLOT
 OVER 1;a*8+12,16: DRAW OVER 1;Ø
,15Ø
5Ø2Ø IF CODE SCREEN$ (5,a+1)<>32
 THEN LET s=s+1Ø: LET h=h-2: GO
TO 5Ø5Ø
5Ø3Ø IF CODE SCREEN$ (3,a+1)<>32
 THEN LET s=s+2Ø: LET h=h-2: GO
TO 5Ø6Ø
5Ø4Ø IF CODE SCREEN$ (1,a+1)<>32
 THEN LET s=s+3Ø: LET h=h-2: GO
TO 5Ø7Ø
5Ø42 FOR i=1 TO 3Ø: NEXT i
5Ø45 RETURN
5Ø5Ø PRINT INK 7;AT 5,a+1;"H": B
EEP .2,7: PRINT PAPER Ø;AT 5,a+1
;" ": GO TO 5Ø8Ø
5Ø6Ø PRINT INK 7;AT 3,a+1;"H": B
EEP .2,7: PRINT PAPER Ø;AT 3,a+1
;" ": GO TO 5Ø8Ø
5Ø7Ø PRINT INK 7;AT 1,a+1;"H": B
EEP .2,7: PRINT INK 7; PAPER Ø;A
T 1,a+1;" ": GO TO 5Ø8Ø
5Ø8Ø PRINT INK Ø; PAPER 3;AT Ø,Ø
;"SCORE: ";s
5Ø9Ø RETURN
51ØØ PLOT OVER 1;a*8+12,16: DRAW
 OVER 1;Ø,24: BEEP .Ø1,-15: PLOT
 OVER 1;a*8+12,16: DRAW OVER 1;Ø
,24
511Ø PRINT INK 6;AT 1Ø,8;"HIT BA
RRIER": BEEP .Ø1,35: PRINT AT 1Ø
,8;"           ": RETURN
699Ø REM TEST IF ANY INVADERS LE
FT
7ØØØ FOR b=Ø TO 31
7Ø1Ø IF CODE SCREEN$ (1,b)=Ø THE
N GO TO 45Ø
7Ø12 IF CODE SCREEN$ (3,b)=Ø THE
N GO TO 45Ø
7Ø2Ø IF CODE SCREEN$ (5,b)=Ø THE
N GO TO 45Ø
7Ø22 NEXT b
7Ø25 PRINT AT 1Ø,Ø;"
                    "
7Ø3Ø PRINT FLASH 1;AT 1Ø,Ø;"****
***BONUS*END*OF*SHEET*******"
7Ø33 BEEP .5,1Ø: BEEP .5,-7: BEE
P 2,35
7Ø35 PRINT AT 1Ø,Ø;"
                    "
7Ø37 IF l=3 THEN LET s=s+1ØØ
7Ø38 IF l=2 THEN LET s=s+75
7Ø39 IF l=1 THEN LET s=s+5Ø
7Ø4Ø PRINT INK Ø; PAPER 3;AT Ø,Ø
;"SCORE: ";s: GO TO 41Ø
799Ø REM DEDUCT LIFE
8ØØØ FOR g=1 TO 5: PRINT INK g;A
T 2Ø,a+1;"D": BEEP .1,g*2: NEXT
g: LET l=l-l: PRINT INK 3;AT 21,
l+7;"  ": BEEP .5,1Ø: BEEP .2,-1
Ø: BEEP .5,35: RETURN
899Ø REM THE END
9ØØØ PRINT FLASH 1;AT 1Ø,Ø;"***A
LL*LIVES*LOST*END*OF*GAME***"
9ØØ5 IF s>hs THEN LET hs=s
9ØØ7 PRINT INK Ø; PAPER 3;AT Ø,2
2;"HIGH: ";hs
9Ø1Ø BEEP .5,Ø: BEEP .5,Ø: BEEP
.5,1Ø
9Ø2Ø INPUT "PRESS ENTER FOR ANOT
HER GAME"; LINE z$
9Ø3Ø CLS : GO TO 4Ø
9Ø4Ø REM INSTRUCTIONS
9Ø5Ø PRINT AT Ø,Ø; INK Ø; PAPER
4;"        SPECTRUM  INVADERS
   "
9Ø6Ø PRINT  '"In this version of
 spaceinvaders"''" you must dest
roy the invaders"''" but watch o
ut for the moving"''" centipede
```

```
with its double lazer"''"The inv
aders sometimes disappear"''" to
o so destroy them fast "''"These
 are the keys"''"   A-to move th
e base left"'"   D-to move the b
ase right"''"  SPACE-fire      Q
-New sheet"
9Ø65 PRINT FLASH 1;AT 21,1Ø;"GOO
D LUCK!!"
9Ø7Ø INPUT "Press enter to play"
; LINE z$
9Ø75 RETURN
```

Labyrinth

'Sinclair User's' initial reaction on playing LABYRINTH for the first time was that it surpassed comparable professional software. On RUNning Labyrinth you will find yourself inside the entrance to a large maze, from which you need to escape. Three-dimensional views of the maze to north, south, east and west can be obtained at the press of a button. When you are completely lost, press 'H' and a plan of the maze will be displayed briefly, but that option is only available five times during your journey. (16K Spectrum)



```
  10 CLEAR : GO SUB 8000
  20 RESTORE 9000: GO SUB 9000
  30 PRINT AT 21,0; FLASH 1;"
     PRESS ANY KEY            "
  40 IF INKEY$="" THEN GO TO 40
  50 BRIGHT 0
  60 FOR n=9 TO 21: PRINT AT n,0
;,,: NEXT n
  70 PRINT AT 10,1;"Press ~Y~ fo
r the instructions"
  80 IF INKEY$="" THEN GO TO 80
  90 IF INKEY$="Y" OR INKEY$="y"
 THEN GO SUB 8200
 100 LET b$="8": LET d=1: LET m=
0
 110 LET p=0: LET x=9: LET y=1
 120 LET xl=x: LET yl=y
 140 BORDER 7: PAPER 7: CLS : IN
K 0
 150 GO TO 500
 220 IF a$="5" THEN LET b$=a$: L
ET d=-1: BEEP .2,10: GO TO 500
 230 IF a$="8" THEN LET b$=a$: L
ET d=1: BEEP .2,10: GO TO 500
 240 IF a$="6" THEN LET b$=a$: L
ET d=1: BEEP .2,10: GO TO 500
 250 IF a$="7" THEN LET b$=a$: L
ET d=-1: BEEP .2,10: GO TO 500
 260 LET a$=INKEY$: IF a$="" THE
N GO TO 260
 270 BEEP .2,0: IF a$="H" OR a$=
"h" THEN LET p=p+1: IF p<=5 THEN
 BEEP .2,10: GO SUB 1000: GO TO
500
 280 IF a$="0" THEN GO TO 300
 290 GO TO 220
 300 IF b$="8" THEN LET yl=yl+1
 310 IF b$="5" THEN LET yl=yl-1
 320 IF b$="6" THEN LET xl=xl+1
 330 IF b$="7" THEN LET xl=xl-1
 400 BEEP .2,10: CLS
 410 IF yl=0 AND xl<>15 THEN LET
 yl=1: PRINT AT 2,3;"You are try
ing to leave by";AT 4,3;"going t
hrough the entrance";AT 6,11;"Tr
y again": FOR n=0 TO 250: NEXT n
: GO TO 500
 420 IF xl=15 AND yl=1 THEN LET
m=m+1: GO TO 3000
 430 IF a(xl,yl)=1 THEN PRINT AT
 10,2;"You cannot go through wal
ls.";AT 12,12;"Try again": FOR n
=0 TO 200: NEXT n: LET xl=x: LET
 yl=y: GO TO 500
 440 LET m=m+1
 500 CLS : PRINT AT 1,6;"You are
 looking ";d$((VAL b$)-4)
 510 PLOT 8,0: DRAW 0,175: PLOT
247,0: DRAW 0,175
 520 IF b$="8" OR b$="5" THEN GO
 TO 800
 530 LET x=xl: LET y=yl
 540 LET dl=d: FOR i=1 TO 5
 550 IF a(x+d,y)=1 THEN GO SUB (
i*10)+2000: LET d=dl: GO TO 260
 560 IF a(x+d,y-1)=1 THEN GO SUB
 (i*10)+2060: GO TO 580
 570 GO SUB (i*10)+2210
 580 IF a(x+d,y+1)=1 THEN GO SUB
 (i*10)+2110: GO TO 600
 590 GO SUB (i*10)+2160
 610 LET d=d+dl: NEXT i
 620 LET d=dl: GO TO 260
 800 LET x=xl: LET y=yl
 810 LET dl=d: FOR i=1 TO 5
 815 IF y+d=0 AND x<>15 THEN GO
TO (i*10)+2490
 817 IF y+d=0 OR y+d=32 THEN IF
x=15 THEN GO TO (i*10)+2590
 820 IF a(x,y+d)=1 THEN GO SUB (
i*10)+2000: LET d=dl: GO TO 260
 830 IF a(x-1,y+d)=1 THEN GO SUB
 (i*10)+2060: GO TO 850
 840 GO SUB (i*10)+2210
 850 IF a(x+1,y+d)=1 THEN GO SUB
 (i*10)+2110: GO TO 870
 860 GO SUB (i*10)+2160
 880 LET d=d+dl: NEXT i
 890 LET d=dl: GO TO 260
1000 BORDER 7: PAPER 7: CLS : IN
K 0
1010 PRINT AT 0,8;"PLAN OF MAZE
No.";p
1020 FOR n=1 TO 20: FOR b=1 TO 3
1
1030 IF a(n,b)=1 THEN PRINT AT n
,b;"(isp)"
1040 NEXT b: NEXT n
1050 IF x=9 AND y=1 THEN PRINT A
T 9,0;">"
```

```
1060 PRINT AT x,y; FLASH 1;"X"
1070 IF x<>9 OR y<>1 THEN PRINT
AT 9,1;">"
1080 PRINT AT 15,1;"<"
1100 PRINT #1;"     YOU ARE WHERE
 THE ~X~ IS."
1110 PRINT #0;"  ENTRANCE = >
     EXIT = <"
1130 FOR n=0 TO 50
1140 BEEP .05,n: BEEP .05,50-n
1150 NEXT n
1160 CLS : RETURN
2010 DRAW -239,0: PLOT 8,0: DRAW
 239,0: RETURN
2020 PLOT 48,32: DRAW 159,0: PLO
T 48,144: DRAW 159,0: RETURN
2030 PLOT 80,56: DRAW 95,0: PLOT
 80,120: DRAW 95,0: RETURN
2040 PLOT 104,72: DRAW 47,0: PLO
T 104,104: DRAW 47,0: RETURN
2050 PLOT 120,80: DRAW 15,0: PLO
T 120,96: DRAW 15,0: RETURN
2060 RETURN
2070 PLOT 8,0: DRAW 40,32: DRAW
0,111: DRAW -40,32: RETURN
2080 PLOT 48,32: DRAW 32,24: DRA
W 0,64: DRAW -32,24: RETURN
2090 PLOT 80,56: DRAW 24,16: DRA
W 0,32: DRAW -24,16: RETURN
2100 PLOT 104,72: DRAW 16,8: DRA
W 0,16: DRAW -16,8: RETURN
2110 PLOT 120,80: DRAW 8,8: DRAW
 -8,8: RETURN
2120 PLOT 247,175: DRAW -40,-32:
 DRAW 0,-111: DRAW 40,-32: RETUR
N
2130 PLOT 207,32: DRAW -32,24: D
RAW 0,64: DRAW 32,24: RETURN
2140 PLOT 175,56: DRAW -24,16: D
RAW 0,32: DRAW 24,16: RETURN
2150 PLOT 151,72: DRAW -16,8: DR
AW 0,16: DRAW 16,8: RETURN
2160 PLOT 135,80: DRAW -8,8: DRA
W 8,8: RETURN
2170 PLOT 247,32: DRAW -40,0: DR
AW 0,112: DRAW 40,0: RETURN
2180 PLOT 207,56: DRAW -32,0: DR
AW 0,64: DRAW 32,0: RETURN
2190 PLOT 175,72: DRAW -24,0: DR
AW 0,32: DRAW 24,0: RETURN
2200 PLOT 151,80: DRAW -16,0: DR
AW 0,16: DRAW 16,0: RETURN
2210 PLOT 127,88: DRAW 8,0: RETU
RN
2220 PLOT 8,32: DRAW 40,0: DRAW
0,112: DRAW -40,0: RETURN
2230 PLOT 48,56: DRAW 32,0: DRAW
 0,64: DRAW -32,0: RETURN
2240 PLOT 80,72: DRAW 24,0: DRAW
 0,32: DRAW -24,0: RETURN
2250 PLOT 104,80: DRAW 16,0: DRA
W 0,16: DRAW -16,0: RETURN
2260 PLOT 127,88: DRAW -7,0: RET
URN
2500 PLOT 8,160: DRAW 239,0: PLO
T 8,151: DRAW 239,0: PRINT AT 2,
8;"E N T R A N C E": LET d=dl: G
O TO 260
2510 PLOT 48,136: DRAW 159,0: PL
OT 48,127: DRAW 159,0: PRINT AT
5,12;"ENTRANCE": LET d=dl: GO TO
 260
2550 LET d=dl: GO TO 260
2610 PLOT 48,136: DRAW 159,0: PL
OT 48,127: DRAW 159,0: PRINT AT
5,14;"EXIT": LET d=dl: GO TO 260
2700 GO TO 260
3000 BORDER 1: PAPER 1: CLS : IN
K 7: BRIGHT 1
3080 PRINT AT 8,3;"You managed t
o get out in"
3090 PRINT AT 9,3;m;" moves."
3100 IF p=0 THEN PRINT AT 11,0;"
You did not ask for help at all"
;
3110 IF p=1 THEN PRINT AT 11,3;"
You asked for help once."
3120 IF p=2 THEN PRINT AT 11,3;"
You asked for help twice."
3130 IF p>2 THEN PRINT AT 11,2;"
You asked for help ";p;" times"
3140 PRINT AT 15,0;"Would you li
ke to see the maze  you have con
quered again ?"
3150 PRINT AT 18,8;"Press ~Y~ if
 YES"
3160 IF INKEY$="" THEN GO TO 316
0
3170 IF INKEY$="Y" OR INKEY$="y"
 THEN GO SUB 4000
```

```
3180 FOR n=15 TO 18: PRINT AT n,
Ø;,,: NEXT n
3190 PRINT AT 15,Ø;"Would you li
ke to play again ?"
3200 PRINT AT 18,8;"Press ~Y~ if
 YES"
3210 IF INKEY$="" THEN GO TO 321
Ø
3220 IF INKEY$="Y" OR INKEY$="y"
 THEN GO TO 3240
3230 BRIGHT Ø: BORDER 7: PAPER 7
: CLS : INK Ø: STOP
3240 GO TO 1Ø
4000 BRIGHT Ø: BORDER 7: PAPER 7
: CLS : INK Ø
4005 PRINT AT Ø,1Ø;"PLAN OF MAZE
"
4010 FOR n=1 TO 2Ø
4020 FOR i=1 TO 31
4030 IF a(n,i)=1 THEN PRINT AT n
,i;"(isp)"
4040 NEXT i: NEXT n
4050 PRINT #Ø;"      PRESS ANY KE
Y TO RETURN "
4060 IF INKEY$="" THEN GO TO 406
Ø
4070 CLS : RETURN
8000 BORDER 1: PAPER 1: CLS : IN
K 7: BRIGHT 1
8080 PRINT AT 12,2;"Please wait
while I work out"
8090 PRINT AT 14,12;"the maze"
8100 RETURN
8210 PRINT AT 1Ø,1;"
                               "
8220 PRINT AT 6,2;"The object of
 the game is to","find your way
out of the maze."
8230 PRINT "  If while trying to
 find your  way out of the maze
you find youare completely lost
then you canget some help by pre
ssing ~H~.  Once you have presse
d the key   the screen will clea
r and you   will be shown a plan
 of the     maze. This will indi
cate your   position in the maze
, the exit  and the entrance. Ho
wever the   plan will only remai
n on view   for a short period o
f time."
8240 PRINT AT 21,Ø;"   PRESS ANY
 KEY TO CONTINUE    "
8250 IF INKEY$="" THEN GO TO 825
Ø
8260 BEEP .2,Ø: BEEP .2,1Ø
8270 FOR n=6 TO 21: PRINT AT n,Ø
;,,: NEXT n
8275 PRINT AT 6,Ø;"  Another thi
ng about the plan  of the maze i
s that you are onlygiven access
to it five times."
8280 PRINT "  Once the game star
ts you will be given a three dim
ensional    representation of th
e maze as   you would see it. Th
is view is  governed by the dire
ction in    which you are lookin
g. You can  look either north,so
uth,east or west."
8290 PRINT "  When you move you
move one    place forward in the
 direction  you are looking."
8300 PRINT AT 21,Ø;"   PRESS ANY
 KEY TO CONTINUE    "
8310 IF INKEY$="" THEN GO TO 831
Ø
8320 BEEP .2,Ø: BEEP .2,1Ø
8330 FOR n=6 TO 21: PRINT AT n,Ø
;,,: NEXT n
8340 PRINT AT 6,Ø;"Keys for look
ing in different   directions:"
8350 PRINT '" WEST    SOUTH    N
ORTH    EAST"
8360 PRINT "   5       6
7       8"
8370 PRINT '"As indicated by the
 arrows abovethe key."
8375 PRINT '"Press ~Ø~ to move o
ne place     forward in the dire
ction you    are looking."
8380 PRINT '"         Press ~H~ fo
r HELP"
8390 PRINT AT 21,Ø;"      PRESS A
NY KEY TO PLAY"
8400 IF INKEY$="" THEN GO TO 84Ø
Ø
8410 BEEP .2,Ø: BEEP .2,1Ø
8420 BORDER 7: PAPER 7: CLS : IN
K Ø
```

```
8430 RETURN
9000 DIM a(20,31): DIM d$(4,5)
9010 FOR n=1 TO 20
9020 READ b$
9030 FOR i=1 TO 31
9040 LET a(n,i)=VAL b$(i)
9070 NEXT i
9080 NEXT n: BEEP .2,0
9090 BEEP .2,10
9095 FOR n=1 TO 4: READ d$(n): N
EXT n: RETURN
9100 DATA "111111111111111111111
1111111111"
9110 DATA "101001000101000000000
0100100001"
9120 DATA "100011010101011101111
0010001101"
9130 DATA "101001011101010101000
1010100001"
9140 DATA "101111010001010001010
1010111111"
9150 DATA "100000000111011111010
1000100001"
9160 DATA "101010111000000000000
1010101101"
9170 DATA "101010100011010101010
1010000011"
9180 DATA "001010101010010101010
1010111001"
9190 DATA "101110000000110101011
1010101111"
9200 DATA "101010111110010100010
0010000001"
9210 DATA "111000101011100011011
1110101101"
9220 DATA "100011101010111100010
0000101001"
9230 DATA "111110000000101001111
1111101011"
9240 DATA "001011101011101010000
0001001001"
9250 DATA "101000001000001010111
0101111011"
9260 DATA "101011111101111110001
0100000001"
9270 DATA "100001000001000001111
0111011101"
9280 DATA "101010010100011100000
0001000001"
9290 DATA "111111111111111111111
1111111111"
9300 DATA "WEST","SOUTH","NORTH"
,"EAST"
```

Sequencer

A sequencer is usually used with a synthesiser, playing a repeated pattern of notes, employing the synthesiser to make the sounds. It splits bars of music into 16 events, each containing either a note or a rest which lasts as long as the event.

SEQUENCER allows you to compose 2 bars of music, to play them back repeatedly at a variety of tempos and to load and save them. (16K Spectrum)

```
  1Ø DIM b$(9,32,3)
  2Ø LET c=-24: LET cs=-23: LET
d=-22: LET ds=-21: LET e=-2Ø: LE
T f=-19: LET fs=-18: LET g=-17:
LET gs=-16: LET a=-15: LET as=-1
4: LET b=-13
 1ØØ CLS : PRINT TAB 13; BRIGHT
1;"MENU": PRINT AT 2,8; INK 1;"1
 Write Sequences"; INK 3;AT 6,8;
"2 Play sequences"; INK Ø;AT 1Ø,
8;"3 Load sequences";AT 14,8;"4
Save sequences"
 11Ø INPUT INK 3;"Your choice (1
 TO 4)?";choice
 12Ø IF (choice<>INT choice) OR
(choice>4 OR choice<1) THEN INPU
T INK 3;"You must enter a whole
number   between 1 and 4.TRY AGA
IN ";choice: GO TO 12Ø
 13Ø GO TO choice*1ØØØ
1ØØØ CLS : PRINT TAB 7; BRIGHT 1
;"Write sequences": PRINT INK 1;
AT 2,Ø;"Notes must be entered in
 the    form ""cs2"" or ""f Ø"""
: PRINT AT 6,Ø;"""c"" is the let
ter name of the   note": PRINT A
T 9,Ø;"""s"" is whether the note
 is sharpor not"
1ØØ5 PRINT AT 14,Ø; INK 1;"-----
---------------------------- To e
nter a rest,type in ""rrr""  ---
-----------------------------"
1ØØ7 PRINT AT 18,Ø; INK 2;"If yo
u want to change a sequenceenter
 ""change"" when you are     ask
ed ""note1?"""
1Ø1Ø PRINT AT 12,Ø;"""2"" is the
 octave of the note    (Ø TO 4)"
1Ø2Ø INK 8: PLOT Ø,64: DRAW 255,
Ø: DRAW Ø,16Ø-64: DRAW -255,Ø: D
RAW Ø,-(16Ø-64): INK Ø
1Ø3Ø INPUT "Sequence number (1 t
o 1Ø)?";seq : IF seq<1 OR seq>1Ø
 OR INT seq<>seq THEN GO TO 1Ø3Ø
1Ø45 FOR u=1 TO 32: GO SUB 1Ø5Ø:
 NEXT u: GO TO 1Ø9Ø
1Ø5Ø INPUT "note";(u);"?";a$: IF
 a$="change" THEN GO TO 1Ø9Ø
1Ø53 IF a$="rrr" THEN LET b$(seq
,u)=a$: RETURN
1Ø55 IF a$="" OR LEN a$<>3 THEN
GO TO 1Ø5Ø
1Ø6Ø IF CODE a$<97 OR CODE a$>1Ø
3 OR (a$(2)<>"s" AND a$(2)<>" ")
 OR CODE a$(3)<48 OR CODE a$(3)>
52 THEN PRINT AT 21,Ø; INK 3;"ER
ROR IN ENTRY:PLEASE RE-ENTER": B
EEP 2,25: PRINT AT 21,Ø;"
                          ": GO T
O 1Ø5Ø
1Ø65 LET b$(seq,u)=a$
1Ø7Ø RETURN
1Ø8Ø NEXT u
1Ø9Ø CLS : PRINT TAB 7; BRIGHT 1
;"Write sequences": FOR n=1 TO 1
6: PRINT n;":";TAB 4;b$(seq,n),n
+16;":";b$(seq,n+16): NEXT n
1Ø95 INPUT "Any alterations(if y
es,enter thenote number which is
 incorrect, otherwise enter""Ø""
)";c$
11ØØ IF c$="Ø" THEN GO TO 1ØØ
11Ø5 IF c$="" OR VAL c$<1 OR VAL
 c$>32 THEN GO TO 1Ø9Ø
111Ø LET u=VAL c$: GO SUB 1Ø5Ø:
GO TO 1Ø9Ø
2ØØØ CLS : PRINT TAB 9; BRIGHT 1
;"Play sequences"
2Ø1Ø PRINT INK 1;"Whilst the mus
ic is playing,the sequence can b
e stopped by      pressing ""s""
"
2Ø13 PRINT "If you want to retur
n to the    menu,enter""Ø""when
asked          ""sequence number?
"""
2Ø15 INPUT "Sequence number? ";s
eq: IF seq<Ø OR seq>9 THEN GO TO
 2Ø15
2Ø16 IF seq=Ø THEN GO TO 1ØØ
2Ø2Ø IF b$(seq,1,1)=" " THEN PRI
NT AT 21,Ø; INK 3;"Sorry;Empty s
equence.Try again": BEEP 2,3Ø: P
RINT AT 21,Ø;"
                  ": GO TO 2Ø15
2Ø25 PRINT AT 1Ø,Ø;"Sequence num
ber:";seq
2Ø3Ø INPUT "Tempo?";tem: IF tem<
=Ø THEN PRINT AT 21,Ø; INK 3;"In
valid tempo (too small)": BEEP 2
```

```
,3Ø: PRINT AT 21,Ø;"
                              ": GO TO 2Ø3
Ø
2Ø35 PRINT AT 12,Ø;"Tempo:";tem
2Ø4Ø PRINT INK 3;'"PRESS ANY KEY
 TO START": PAUSE Ø
2Ø45 FOR n=1 TO 32
2Ø5Ø LET z$=INKEY$: IF z$="s" TH
EN GO TO 23ØØ
2Ø6Ø IF b$(seq,n)="rrr" THEN PAU
SE 5Ø/tem: GO TO 2Ø8Ø
2Ø7Ø BEEP 1/tem,VAL b$(seq,n, TO
 2)+(VAL (b$(seq,n,3))*12)
2Ø8Ø NEXT n
2Ø9Ø GO TO 2Ø45
23ØØ INPUT "Do want to change te
mpo or      sequence (y/n)?";a$:
 IF a$(1)="n" THEN GO TO 1ØØ
231Ø GO TO 2ØØØ
3ØØØ CLS : PRINT TAB 9; BRIGHT 1
;"Load sequences"
3Ø1Ø PRINT AT 2,Ø; INK 1;"Positi
on tape at the appropiate place:
The first set of sequencesthat t
he computer finds will be loaded
"
3Ø2Ø PRINT FLASH 1; INK 3;"PRESS
 ANY KEY TO START"
3Ø3Ø LOAD "sequences" DATA b$()
3Ø4Ø PRINT CHR$ 11: PRINT "Seque
nces Loaded                    "
3Ø5Ø PAUSE 1ØØ: GO TO 1ØØ
4ØØØ CLS : PRINT TAB 9; BRIGHT 1
;"Save sequences"
4Ø1Ø PRINT AT 2,Ø; INK 1;"Positi
on tape at the appropiate place.
All sets of sequences havethe na
me ""sequences"""
4Ø2Ø SAVE "sequences" DATA b$( )
4Ø3Ø PRINT "____________________
_____________": PRINT TAB 9; BRIG
HT 1;"Verification": PRINT INK 1
;"Position tape back to the
  beginning of the last set of
  sequences,and then start the
  tape running": VERIFY "": PRIN
T FLASH 1;"VERIFIED": PAUSE 1ØØ:
 GO TO 1ØØ
```

Flowchart

Flowchart was written to read any program written in Basic for the Spectrum, and to produce a flowchart of that program. That can then be displayed on the screen or copies by the printer. Five columns show the line number, the appropriate command, the flow box, any GOTO statement, and the line given to such a statement.

Enter the program to be charted, checking that none of its line numbers is the same as those in the Flowchart program. Then add the Flowchart program by entering 'MERGE'

```
9900 REM FLOW-CHART
9901 OVER Ø: INVERSE Ø: BRIGHT 1
: BORDER 1: PAPER 6: INK Ø: CLS
9902 LET A=PEEK 23636: LET A=A*2
56: LET A=A+PEEK 23635
9903 LET C=Ø: LET Y=175: LET X=1
3Ø
9904 LET L=PEEK A: LET L=L*256:
LET L=L+PEEK (A+1): LET A=A+4
9905 IF L>9899 THEN GO TO 9943
9906 PRINT L;TAB 5;CHR$ PEEK A:
LET C=C+2: PRINT
9907 PLOT X,Y: LET B=PEEK A
9908 IF B=226 OR B=234 OR B=242
OR B=254 THEN GO TO 9924
9909 IF B>227 AND B<231 OR B=232
 OR B=235 OR B=241 OR B=247 OR B
=249 OR B=253 THEN GO TO 9925
991Ø IF B=243 OR B=25Ø THEN GO T
O 9926
9911 IF B=236 OR B=237 THEN GO T
O 9934
9912 DRAW 16,Ø: DRAW -4,-8: DRAW
 -28,Ø: DRAW 4,8: DRAW 12,Ø
9913 LET Y=Y-8
9914 IF B=226 OR B=236 OR B=237
OR B=254 THEN GO TO 9916
9915 PLOT X,Y: DRAW Ø,-7: DRAW 4
,4: DRAW -4,-4: DRAW -4,4
9916 LET Y=Y-8
9917 LET B=PEEK A
9918 IF B=14 THEN LET A=A+4
9919 IF B=13 THEN GO TO 9922
992Ø IF B=58 THEN GO TO 994Ø
9921 LET A=A+1: GO TO 9917
9922 IF C=2Ø THEN GO TO 9943
9923 LET A=A+1: GO TO 99Ø4
9924 DRAW 12,Ø: DRAW 4,-8,-PI: D
RAW -24,Ø: DRAW -4,8,-PI: DRAW 1
2,Ø: GO TO 9913
9925 DRAW 16,Ø: DRAW Ø,-8: DRAW
-32,Ø: DRAW Ø,8: DRAW 16,Ø: GO T
O 9913
9926 DRAW 8,-4: DRAW 8,Ø: DRAW -
4,4: DRAW 4,-4: DRAW -4,-4: DRAW
 4,4: DRAW -8,Ø: DRAW -8,-4: DRA
W -8,4: DRAW 8,4
9927 IF B=243 THEN GO TO 9933
9928 LET A=A+1: LET F=PEEK A
9929 IF F=14 THEN LET A=A+4
993Ø IF NOT F=2Ø3 THEN GO TO 992
8
9931 LET A=A+1: LET F=PEEK A: PR
INT AT C-2,19;CHR$ F: PRINT
9932 IF F=236 OR F=237 THEN GO T
O 9935
9933 GO TO 9913
9934 CIRCLE X,Y-4,4: PLOT X+4,Y-
4: DRAW 64,Ø: DRAW -4,4: DRAW 4,
-4: DRAW -4,-4: PLOT X,Y
9935 LET A=A+1: LET F=PEEK A
9936 IF NOT F=14 THEN GO TO 9935
9937 LET A=A+3: LET G=PEEK (A+1)
: LET G=G*256: LET G=G+PEEK (A)
9938 PRINT AT C-2,26;G: PRINT
9939 GO TO 9913
994Ø IF C=2Ø THEN GO TO 9943
9941 LET A=A+1: PRINT "    :";TAB
 5;CHR$ PEEK A: PRINT : LET C=C+
2
9942 GO TO 99Ø7
9943 INVERSE 1: PRINT AT 21,Ø;"
PRESS ""V"" TO VIEW ""P"" TO PRI
NT ": INVERSE Ø
9944 IF INKEY$="V" OR INKEY$="v"
 THEN GO TO 9947
9945 IF INKEY$="p" OR INKEY$="P"
 THEN GO TO 9951
9946 GO TO 9944
9947 CLS : LET D=Ø: LET E=22: LE
T C=Ø: LET X=13Ø: LET Y=175
9948 IF PEEK A=58 THEN GO TO 994
1
9949 IF L>9899 THEN STOP
995Ø LET A=A+1: GO TO 99Ø4
9951 PRINT AT 21,Ø;"
                               ": COPY : GO
 TO 9947
```

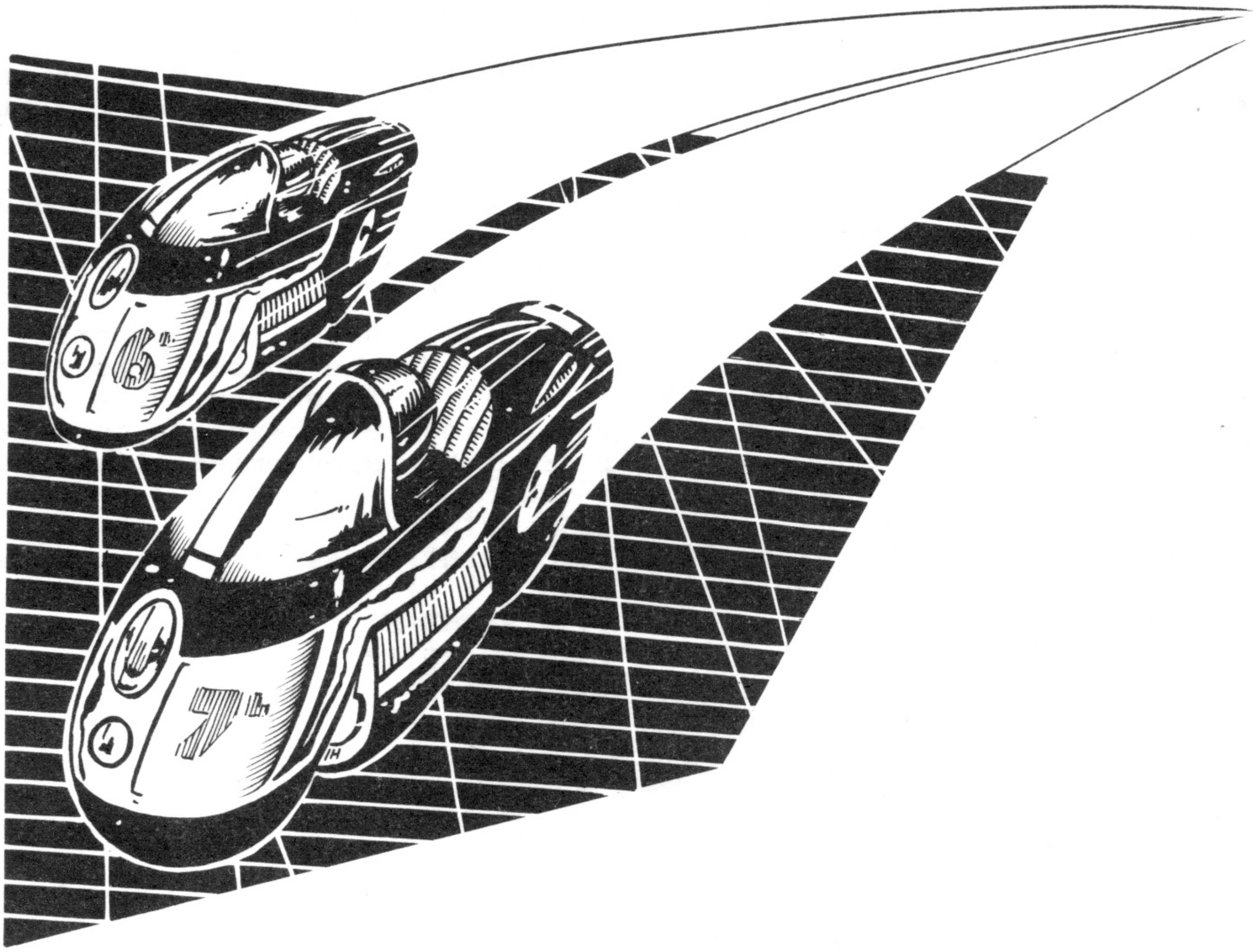
Lissajous

'A' level physics students will find Lissajous, written for the 16K Spectrum useful. The program is designed to draw graphs representing the mathematical relationship existing between pairs of sinusoidal wave forms. It is self-explanatory and contains a simplified explanation of the principles involved. The writer adds that good examples of Lissajous figures will be obtained with a frequency of 1:1 and various values of phase angle.

```
  1 PAPER 1: BORDER 4: INK 6
  2 REM "lissajous"
  3 PRINT "Lissajous figures."
  5 PRINT
  6 PRINT "Do you require an ex
planation of this program (y/n)?
"
  7 PAUSE Ø
  8 IF INKEY$="y" THEN GO TO 1Ø
ØØ
  9 IF INKEY$="n" THEN GO TO 1Ø
 1Ø CLS : BORDER 1
 12 INPUT "Enter the phase angl
e in degrees and press ENTER. ";
p
 13 LET ph=p/18Ø*PI
 14 INPUT "Enter ratio of frequ
encies of X-signal to Y-signal.
 Just enter the first number, p
ress ENTER, enter the second num
ber and    press ENTER again. B
oth values  should be whole numb
ers. ";x;y
 16 INPUT "Enter ratio of ampli
tudes of    X-signal to Y-signal
 in the sameway. Neither value m
ay be       greater than two. ";
a;b
 17 CLS
 18 FOR n=1 TO 255
 2Ø PLOT 127+a*4Ø*SIN (x*n/128*
PI),88+b*4Ø*SIN (y*n/128*PI+ph)
 3Ø NEXT n
 4Ø GO TO 12
1ØØØ CLS
11ØØ PRINT "   When the displace
ments with   time due to two sin
usoidal     progressive waves ar
e plotted   against each other,
certain     mathematical figures
, known as  LISSAJOUS FIGURES, a
re created  if the frequencies o
f the waves bear a simple relati
onship to   each other.  The si
tuation is  complicated if the w
aves are out of step.  We say t
here is a   PHASE DIFFERENCE bet
ween them.  If the waves have d
ifferent     AMPLITUDES (heights
), then the figure will be stret
ched in one  direction or the ot
her."
115Ø PRINT
12ØØ PRINT "Press any key to con
tinue"
125Ø PAUSE Ø
1275 CLS
13ØØ PRINT "Using this program y
ou can vary the phase angle  and
 the          frequency and amplit
ude ratios, and have the compute
r draw the  appropriate Lissajou
s figure."
135Ø PRINT
14ØØ PRINT "Press any key to beg
in"
145Ø PAUSE Ø
15ØØ GO TO 1Ø
```

Light Cycles

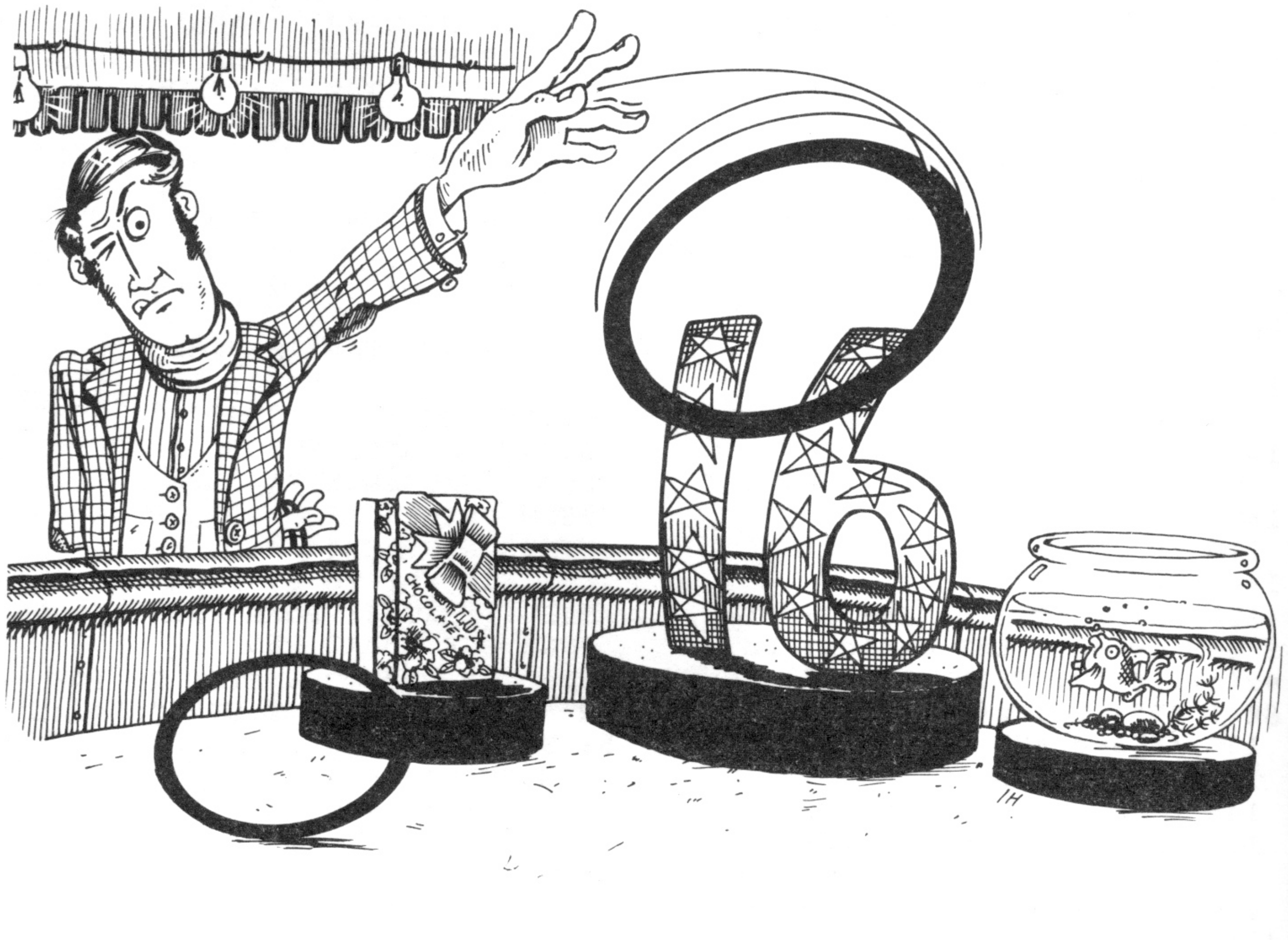
Light Cycles is a game for two players based on the cycle race in TRON. One player takes the blue cycle, the other takes the red one. Your aim is to outlive your opponent and, if possible, make him crash either into the wall or the trail of wither of the light cycles. Full instructions are given. (16K Spectrum)



```
   5 DIM z(22,32): FOR f=1 TO 22
: LET z(f,1)=1: LET z(f,32)=1: N
EXT f: FOR f=1 TO 32: LET z(1,f)
=1: LET z(22,f)=1: NEXT f
  10 LET z(15,10)=1: LET z(15,22
)=1: LET a=14: LET b=21: LET c=1
4: LET d=9: LET a1=-1: LET b1=0:
 LET c1=-1: LET d1=0: INK 6: PAP
ER 0: BORDER 7: CLS
  20 LET a$="AAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAA": PRINT INK 5;a$:
FOR f=1 TO 20: PRINT INK 5;"A";
INK 6;"BBBBBBBBBBBBBBBBBBBBBBBBB
BBBBBBB"; INK 5;"A": NEXT f: PRI
NT INK 5;a$: BEEP .5,30
  30 IF IN 49150<>255 THEN LET a
1=0: LET b1=-1
  40 IF IN 32766<>255 THEN LET a
1=1: LET b1=0
  50 IF IN 57342<>255 THEN LET a
1=0: LET b1=1
  60 IF IN 61438<>255 THEN LET a
1=-1: LET b1=0
  70 PRINT AT a,b; INK 5;"(isp)"
: LET a=a+a1: LET b=b+b1: LET a2
=z(a+1,b+1): PRINT AT a,b; INVER
SE 1;"B": LET z(a+1,b+1)=1
  80 IF IN 65022<>255 THEN LET c
1=0: LET d1=-1
  90 IF IN 65278<>255 THEN LET c
1=1: LET d1=0
 100 IF IN 64510<>255 THEN LET c
1=0: LET d1=1
 110 IF IN 63486<>255 THEN LET c
1=-1: LET d1=0
 120 PRINT AT c,d; INK 2;"(isp)"
: LET c=c+c1: LET d=d+d1: LET c2
=z(c+1,d+1): PRINT AT c,d; INVER
SE 1;"B": LET z(c+1,d+1)=1
 130 IF a=c AND b=d OR a2 AND c2
 THEN GO TO 170
 140 IF a2 THEN GO TO 180
 150 IF c2 THEN GO TO 190
 160 BEEP s/20,20: GO TO 30
 170 LET a$="YOU BOTH CRASHED!!!
!": GO TO 200
 180 LET a$="BLUE CRASHED !": GO
 TO 200
 190 LET a$="RED CRASHED !"
 200 PAPER 7: BORDER 7: CLS : IN
K 0
 210 PRINT AT 7,5;a$' INK 1'"N t
o stop"''"Y to play again"''"S to
change speed"
 220 IF INKEY$="y" THEN GO TO 5
 230 IF INKEY$="n" THEN CLS : PR
INT AT 9,9;"START THE TAPE": LOA
D ""
 240 IF INKEY$="s" THEN GO TO 70
0
 250 GO TO 220
 500 PAPER 0: INK 0: BORDER 0: C
LS : PRINT FLASH 1; INK 6;AT 9,9
;"STOP THE TAPE": PAUSE 0: PAPER
 7: BORDER 7: CLS
 600 PRINT AT 0,13;"TRON"''"For
two players.The player on   the
left controls the "; INK 2;"RED"
; INK 0;" light cycle,and the ot
her the "; INK 1;"BLUE"; INK 0;"
.Youmustn't hit the wall or the
    trail of either of the light
    cycles."
 650 PRINT 'TAB 10;"CONTROLS:-"'
 INK 2'"        RED"; INK 1,"BLUE
"' INK 0'"UP     12345","67890"''
"RIGHT QWERT","YUIOP"''"LEFT  AS
DFG","HJKL ENTER"''"DOWN   ZXCV"
,"BNM SHIFT"''"DO NOT PRESS CAP-
SHIFT OR SPACE"
 660 FOR f=1 TO 6: POKE USR "b"+
f,129: NEXT f: POKE USR "b",255:
 POKE USR "b"+7,255
 670 FOR f=0 TO 6 STEP 2: POKE U
SR "a"+f,170: POKE USR "a"+1+f,8
5: NEXT f
 700 INPUT "Speed(10-slow/0-fast
) ? ";s: IF s<0 OR s>10 THEN GO
TO 700
 750 GO TO 5
 800 SAVE "TRON" LINE 500
```

Hoop-La

The object of Hoop-La is to encircle 16 randonly-drawn asterisks. The hoops are thrown with the keys 1 to 0. How far they travel depends on how long the keys are held down. Their path can be bent to the left by pressing any key on the left side of the keybboard, and to the right by pressing any key on the right side of the keyboard. Double points are scored if you can bounce a hoop against the top of the screen before encircling the asterisk. (16K Spectrum)



```
 100 OVER 1: LET SC=Ø: PAPER 7:
BORDER 6
 11Ø FOR J=USR CHR$ 144 TO USR C
HR$ 147+7: READ A
 12Ø POKE J,A: NEXT J
 13Ø INK 3: FOR J=1 TO 5: READ A
,B: PRINT AT A,B;"AB";AT A+1,B;"
CD";AT A,B+18;"AB";AT A+1,B+18;"
CD": NEXT J: PRINT AT 1Ø,12;"HOO
P-LA!": PAUSE 2ØØ: INK 2: CLS
 14Ø FOR C=Ø TO 3Ø STEP 2: LET L
=INT (RND*18)
 15Ø PRINT INK 1;AT L,C;"*": NEX
T C
 16Ø FOR Q=49 TO Ø STEP -1
 17Ø LET A=CODE INKEY$: POKE 236
72,Ø: POKE 23673,Ø: BEEP .Ø1,-1Ø
 18Ø BEEP .Ø1,-5: IF A<48 OR A>5
8 THEN GO TO 17Ø
 19Ø IF INKEY$<>"" THEN BEEP .Ø5
,-5: GO TO 19Ø
 2ØØ LET T=256*PEEK 23673+PEEK 2
3672
 21Ø IF T>84 THEN LET T=84
 22Ø LET T=INT (T/2): IF A=48 TH
EN LET A=58
 23Ø LET T=21-T: IF T<-2Ø THEN L
ET T=-2Ø
 24Ø LET X=(A-48)*3
 25Ø FOR J=21 TO T STEP -1
 26Ø IF IN 65Ø22<>255 OR IN 6451
Ø<>255 OR IN 63486<>255 OR IN 65
278<>255 THEN LET X=X-1
 27Ø IF IN 4915Ø<>255 OR IN 6143
8<>255 OR IN 32766<>255 OR IN 57
342<>255 THEN LET X=X+1: IF X=31
 THEN LET X=3Ø
 28Ø LET Y1=CODE SCREEN$ (J,X)
 29Ø LET Y2=CODE SCREEN$ (J,X+1)
 3ØØ IF J>=Ø THEN LET Y3=CODE SC
REEN$ (J+1,X)
 31Ø IF J<Ø THEN LET Y3=CODE SCR
EEN$ (J-1,X)
 32Ø IF J>=Ø THEN LET Y4=CODE SC
REEN$ (J+1,X+1)
 33Ø IF J<Ø THEN LET Y4=CODE SCR
EEN$ (J-1,X+1)
 34Ø PRINT AT J,X;"AB"
 35Ø IF J<>21 AND J>=Ø THEN PRIN
T AT J+1,X;"CD"
 36Ø IF J<Ø THEN PRINT AT J-1,X;
"CD"
 37Ø IF J<>T THEN PRINT INK 1;AT
 J,X;"AB": IF J<>21 AND J>=Ø THE
N PRINT INK 1;AT J+1,X;"CD"
 38Ø IF J<Ø AND J<>T THEN PRINT
AT J-1,X;"CD"
 39Ø NEXT J: IF Y1=42 OR Y2=42 O
R Y3=42 OR Y4=42 THEN GO SUB 51Ø
 4ØØ PRINT #Ø;AT Ø,24;"HOOPS ";Q
;CHR$ 32
 41Ø BEEP .5,-3Ø: PRINT OVER Ø;A
T J+1,X;"  ": IF J>=Ø THEN PRINT
 OVER Ø;AT J+2,X;"  "
 42Ø IF J<Ø THEN PRINT OVER Ø;AT
 J,X;"  "
 43Ø NEXT Q
 44Ø CLS : PRINT "YOUR SCORE ";S
C;
 45Ø IF SC>=25 THEN PRINT " [INC
REDIBLE]": STOP
 46Ø IF SC>=2Ø THEN PRINT " [BRI
LLIANT]": STOP
 47Ø IF SC>=16 THEN PRINT " [VER
Y GOOD]": STOP
 48Ø IF SC>=1Ø THEN PRINT " [NOT
 BAD]": STOP
 49Ø IF SC>=5 THEN PRINT " [COUL
D DO BETTER]": STOP
 5ØØ IF SC<5 THEN PRINT " [TERRI
BLE]": STOP
 51Ø FOR K=-2Ø TO 2Ø
 52Ø BEEP .Ø5,K: NEXT K
 53Ø LET SC=SC+1: IF J<Ø THEN LE
T SC=SC+1
 54Ø PRINT #Ø;AT Ø,Ø;"SCORE ";SC
 55Ø PRINT OVER Ø;AT J+1,X;"  ";
AT J+2,X;"  "
 56Ø RETURN
9ØØØ DATA 7,28,48,96,64,192,128,
128,224,BIN ØØ111ØØØ,12,6,2,3,1,
1
9Ø1Ø DATA 128,128,192,64,96,BIN
ØØ11ØØØØ,BIN ØØØ111ØØ,7,1,1,3,2,
6,BIN ØØØØ11ØØ,BIN ØØ111ØØØ,224
9Ø2Ø DATA 1Ø,5,1Ø,6,1Ø,7,9,6,11,
6
9998 FOR J=1 TO 1Ø: SAVE "HOOP-L
A": NEXT J
```

Noughts and Crosses

'Sinclair User' has received many programs through which the player is able to take on the computer at Noughts and Crosses. The problem with most of the programs was either that the computer could play well, in which case it would never lose and make the game exceedingly boring, or it could play badly, in which case it was possible for the player to win all the time.

This is a program for the 16K Spectrum which fits the bill. In it the computer does not always respond to the same move in the same way, so that, if you watch very carefully for an opening it is occasionally possible to win.

```
  2 PRINT AT 11,4;"Press any ke
y to start": PAUSE Ø: CLS
  1Ø DATA 192,224,112,56,28,14,7
,3,3,7,14,28,56,112,224,192,7,31
,6Ø,112,96,224,192,192,224,248,6
Ø,14,6,7,3,3,192,192,224,96,112,
6Ø,31,7,3,3,7,6,14,6Ø,248,224
  11 FOR n=Ø TO 47: READ a: POKE
 USR "a"+n,a: NEXT n
  12 LET d=Ø
  13 PRINT AT 8,8;"Noughts & Cro
Xses": PAUSE 99
  15 PAUSE 5: PRINT AT 8,9;" ";A
T 7,9;"o": BEEP .Ø5,8:: FOR n=9
TO 2Ø: PRINT AT 7,n;" o": BEEP .
Ø5,8: NEXT n: PAUSE 2: FOR n=7 T
O Ø STEP -1: PRINT AT n,21;"o";A
T n+1,21;"X";AT n+2,21;" ": BEEP
 .Ø5,8: NEXT n: PRINT AT Ø,21;"X
";AT 1,21;" ": BEEP .Ø5,8: PRINT
 AT Ø,21;" ": BEEP .Ø5,8
  16 PAUSE 2Ø: PRINT AT Ø,21;"s"
: BEEP .Ø5,8: PRINT AT Ø,21;"o";
AT 1,21;"s": BEEP .Ø5,8: FOR n=Ø
 TO 6: PRINT AT n,21;" ";AT n+1,
21;"o";AT n+2,21;"s": BEEP .Ø5,8
: NEXT n: PAUSE 2: FOR n=21 TO 9
 STEP -1: PRINT AT 7,n;"o ": BEE
P .Ø5,8: NEXT n: PAUSE 4Ø: PRINT
 AT 7,9; INK 2;"o": PAUSE 6Ø: PR
INT AT 7,9;" ";AT 8,9;"o": BEEP
.1,Ø: PAUSE 15: PRINT AT 8,9; IN
K Ø;"o"
  2Ø LET d=Ø: PRINT AT 14,4;"How
 many players? (1 or 2)": PAUSE
Ø
  25 IF INKEY$="2" THEN GO TO 5Ø
  3Ø IF INKEY$<>"1" THEN GO TO 2
Ø
  35 PRINT AT 2Ø,Ø;"Shall I go f
irst? (Y/N)"
  4Ø IF INKEY$="Y" OR INKEY$="y"
 THEN LET FLAG=Ø: GO TO 2ØØ
  41 IF INKEY$<>"N" AND INKEY$<>
"n" THEN GO TO 35
  45 LET FLAG=1: GO TO 2ØØ
  5Ø INPUT "Name of player 1? ";
b$
  51 INPUT "and name of player 2
? ";c$
  55 CLS : PRINT AT 5,Ø;"Who sta
rts first,";AT 7,Ø;b$;"(1)? or "
;c$;"(2)?": PAUSE Ø
  6Ø IF INKEY$="1" THEN LET D=1
  65 IF INKEY$="2" THEN LET D=2
  7Ø IF INKEY$<>"1" AND INKEY$<>
"2" THEN GO TO 55
 2ØØ CLS : PLOT 8Ø,96: DRAW 96,Ø
 2Ø1 PLOT 8Ø,64: DRAW 96,Ø
 2Ø2 PLOT 112,32: DRAW Ø,96
 2Ø3 PLOT 144,32: DRAW Ø,96
 21Ø PRINT AT 21,2;"(select with
 <> keys & ENTER)"
 25Ø DIM c(9): DIM p(9)
 254 IF d=1 OR d=2 THEN GO TO 5Ø
ØØ
 255 IF FLAG=Ø THEN GO TO 3ØØ
 256 IF FLAG=1 THEN GO TO 22ØØ
 3ØØ DATA 1,2,3,4,5,6,7,8,9,1,4,
7,2,5,8,3,6,9,1,5,9,3,5,7
 35Ø RESTORE 3ØØ: FOR n=1 TO 8:
READ a,b,c
 355 IF p(a)+p(b)+p(c)=3 THEN GO
 TO 3ØØØ
 36Ø NEXT n
 4ØØ RESTORE 3ØØ: FOR n=1 TO 8:
READ a,b,c
 4Ø5 IF c(a)+c(b)+c(c)=2 THEN GO
 SUB 6ØØ
 41Ø IF FLAG=1 THEN GO TO 32ØØ
 415 NEXT n
 43Ø IF (C(1)+P(1)+C(5)+P(5)+C(9
)+P(9)=3 AND C(2)+P(2)+C(3)+P(3)
+C(4)+P(4)+C(6)+P(6)+C(7)+P(7)+C
(8)+P(8)=Ø) OR (C(3)+P(3)+C(5)+P
(5)+C(7)+P(7)=3 AND C(1)+P(1)+C(
2)+P(2)+C(4)+P(4)+C(6)+P(6)+C(8)
+P(8)+C(9)+P(9)=Ø) THEN LET x=2*
(INT (RND*4)+1): LET c(x)=1: LET
 FLAG=1: GO SUB 1ØØØ: GO TO 22ØØ
 45Ø RESTORE 3ØØ: FOR n=1 TO 8:
READ a,b,c
 455 IF p(a)+p(b)+p(c)=2 THEN GO
 SUB 6ØØ
 46Ø IF FLAG=1 THEN GO TO 35ØØ
 465 NEXT n
 5ØØ LET n=5
 5Ø5 IF p(n)+c(n)=Ø THEN GO SUB
7ØØ
 51Ø IF FLAG=1 THEN GO TO 35ØØ
```

```
 55Ø RANDOMIZE : LET n=(2*INT (R
ND*5))+1
 555 FOR m=1 TO 5
 56Ø IF p(n)+c(n)=Ø THEN GO SUB
7ØØ
 565 IF FLAG=1 THEN GO TO 35ØØ
 57Ø LET n=n+2
 573 IF n=11 THEN LET n=1
 574 NEXT m
 575 LET n=n+1
 578 FOR m=1 TO 4
 58Ø IF n=1Ø THEN LET n=2
 585 IF p(n)+c(n)=Ø THEN GO SUB
7ØØ
 59Ø IF FLAG=1 THEN GO TO 35ØØ
 595 LET n=n+2: NEXT m
 6ØØ IF p(a)+c(a)=Ø THEN LET c(a
)=1: LET FLAG=1: LET x=a: GO SUB
 1ØØØ
 6Ø5 IF p(b)+c(b)=Ø THEN LET c(b
)=1: LET FLAG=1: LET x=b: GO SUB
 1ØØØ
 61Ø IF p(c)+c(c)=Ø THEN LET c(c
)=1: LET FLAG=1: LET x=c: GO SUB
 1ØØØ
 615 RETURN
 7ØØ LET c(n)=1: LET x=n: LET FL
AG=1: GO SUB 1ØØØ: RETURN
 999 STOP
1ØØØ LET v=1: LET h=x-4
1ØØ5 IF x>6 THEN LET v=2: LET h=
x-7
1Ø1Ø IF x<4 THEN LET v=Ø: LET h=
x-1
1Ø15 IF FLAG=1 THEN PRINT AT 7+v
*4,11+h*4; INK 2;"AB";AT 8+v*4,1
1+h*4;"BA": BEEP .1,3: BEEP .2,Ø
1Ø2Ø IF FLAG=Ø THEN PRINT AT 7+v
*4,11+h*4; INK 1;"CD";AT 8+v*4,1
1+h*4;"EF": BEEP .1,Ø: BEEP .2,3
1Ø25 IF FLAG=2 THEN PRINT OVER 1
; PAPER 6; INK 8;AT 7+v*4,11+h*4
;"  ";AT 8+v*4,11+h*4;"  "
1Ø3Ø RETURN
22ØØ PRINT AT 1,3;"YOUR TURN...
                 "
221Ø LET x=1: LET FLAG=2: GO SUB
 1ØØØ
2212 PAUSE Ø
2214 LET a$=INKEY$
2215 PRINT PAPER 7; OVER 1; INK
8;AT 7+v*4,11+h*4;"  ";AT 8+v*4,
11+h*4;"  "
222Ø LET x=x+(a$="8")-(a$="5"):
IF x=Ø THEN LET x=1
2221 IF x=1Ø THEN LET x=9
2225 IF a$=CHR$ 13 AND (D=1 OR D
=2) THEN GO TO 52ØØ
223Ø IF a$=CHR$ 13 THEN GO TO 23
ØØ
224Ø GO SUB 1ØØØ
225Ø GO TO 2212
23ØØ IF p(x)+c(x)=1 THEN BEEP .4
,-1Ø: GO TO 2212
231Ø LET FLAG=Ø: LET p(x)=1: GO
SUB 1ØØØ: GO TO 35ØØ
24ØØ PRINT AT 1,3;"
...MY TURN"
241Ø GO TO 3ØØ
3ØØØ PRINT AT 1,3; FLASH 1;"
   YOU WIN!              ": GO TO
 32Ø5
32ØØ PRINT AT 1,3; FLASH 1;"
   SPECTRUM WINS!        "
32Ø4 LET FLAG=3
32Ø5 LET x=a: GO SUB 1ØØØ: GO SU
B 323Ø
321Ø LET x=b: GO SUB 1ØØØ: GO SU
B 323Ø
3215 LET x=c: GO SUB 1ØØØ: GO SU
B 323Ø
322Ø GO TO 4ØØØ
323Ø FOR n=6 TO 9: PRINT PAPER 4
; OVER 1; INK 8;AT n+v*4,1Ø+h*4;
"    ": NEXT n: BEEP .1,-8: BEEP
 .1,-12: RETURN
3499 STOP
35ØØ LET t=Ø
351Ø FOR n=1 TO 9
3515 LET t=t+p(n)+c(n): NEXT n
352Ø IF t=9 THEN GO TO 4ØØØ
3525 IF FLAG=1 THEN GO TO 22ØØ
353Ø IF FLAG=Ø THEN GO TO 24ØØ
4ØØØ PRINT AT 3,13;"Another game
? (Y/N)": PAUSE Ø
4ØØ5 IF INKEY$<>"y" AND INKEY$<>
"Y" THEN STOP
4Ø1Ø IF d=Ø THEN RUN 2Ø
4Ø2Ø IF d<>Ø THEN PRINT AT 4,13;
```

```
"Same players? (Y/N)": PAUSE Ø
4Ø3Ø IF INKEY$="y" OR INKEY$="Y"
 THEN FOR n=1 TO 9: LET p(n)=Ø:
LET c(n)=Ø: NEXT n: CLS : GO TO
55
4Ø4Ø RUN 2Ø
4999 STOP
5ØØØ IF d=2 THEN GO TO 6Ø1Ø
5Ø1Ø PRINT AT 1,3;b$;"'s turn...
          "
5Ø2Ø GO TO 221Ø
5Ø3Ø LET P(X)=1: LET FLAG=1: GO
SUB 1ØØØ: GO TO 6ØØØ
52ØØ IF p(x)+c(x)=1 THEN BEEP .4
,-1Ø: GO TO 2212
52Ø5 IF D=1 THEN GO TO 5Ø3Ø
521Ø LET c(x)=1: LET FLAG=Ø: GO
SUB 1ØØØ: GO TO 65ØØ
6ØØØ RESTORE 3ØØ: FOR N=1 TO 8:
READ a,b,c: IF p(a)+p(b)+p(c)=3
THEN PRINT AT 1,3; FLASH 1;"  ";
b$;" wins!  ": LET FLAG=3: GO TO
 32Ø5
6ØØ1 NEXT n
6ØØ5 LET t=Ø: FOR n=1 TO 9: LET
t=t+p(n)+c(n): IF t=9 THEN GO TO
 4ØØØ
6Ø1Ø LET d=2: PRINT AT 1,3;c$;"'
s turn...              ": GO TO 22
1Ø
65ØØ RESTORE 3ØØ: FOR n=1 TO 8:
READ a,b,c: IF c(a)+c(b)+c(c)=3
THEN PRINT AT 1,3; FLASH 1;"  ";
c$;" wins!  ": LET FLAG=3: GO TO
 32Ø5
65Ø1 NEXT n
65Ø5 LET t=Ø: FOR n=1 TO 9: LET
t=t+p(n)+c(n): IF t=9 THEN GO TO
 4ØØØ
651Ø LET d=1: GO TO 5ØØØ
```

Touch Type

For those who have never had typing lessons and consequently feel that typing programs on the Spectrum is more difficult than it should be, we introduce you to Touch Type, a program designed to be a crash course in typing.

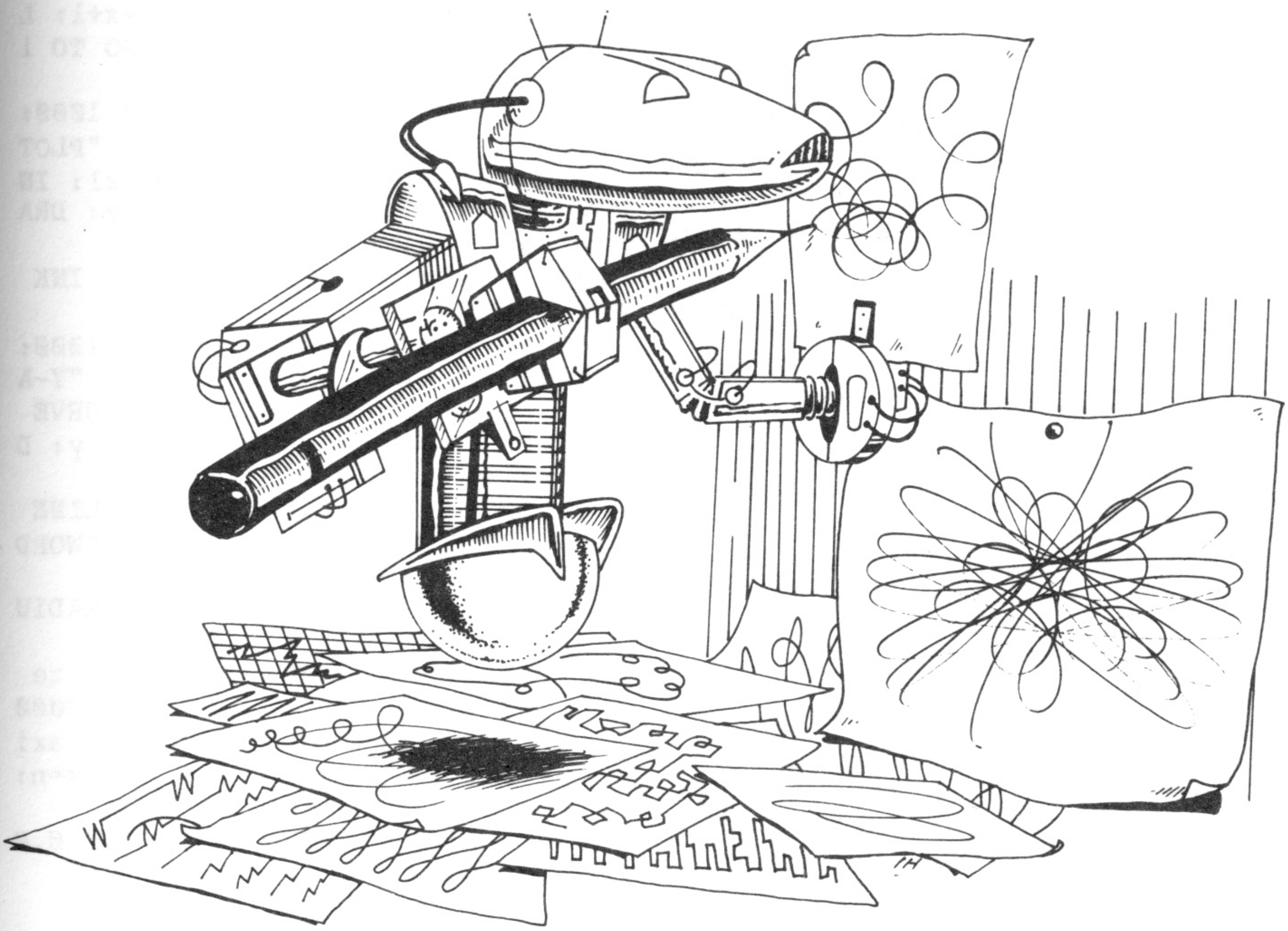
There are 3 sections from which you can choose - a short series of instructions, an endless series of letters for practice and a typing test which indicates your speed in words per minute. For the 16K Spectrum.

```
   1 POKE 23658,8: RESTORE
   2 DEF FN T()=(65536*PEEK 2367
4+256*PEEK 23673+PEEK 23672)/50
   3 DEF FN L(A,B)=(A+B+ABS (A-B
))/2
   4 DEF FN R(X)=((INT (X*10))/1
0)
  10 LET K$="1234567890QWERTYUIO
PASDFGHJKL  ZXCVBNM  "
  20 LET Y=8: DATA -2,-1,0,-1
  50 BORDER 0: PAPER 0: INK 6
 100 CLS : FOR R=0 TO 3: LET Y=Y
+3: READ X
 110 FOR K=1 TO 10: LET X=X+3
 120 PRINT INK 0; PAPER 5;AT Y,X
;K$(R*10+K);" ";AT Y+1,X;"  "
 130 NEXT K: NEXT R
 140 PRINT PAPER 5;AT 20,1;" ";A
T 21,1;" ";AT 20,31;" ";AT 21,31
;" "
 160 GO SUB 9000: PRINT INVERSE
1;AT 0,0;" PLEASE SELECT "
 170 PRINT '"""1""-Instructions"
'"""2""-Training"'"""3""-Timed t
est"'"""4""-Quit program"
 200 GO TO 200+800*(INKEY$="1")+
1800*(INKEY$="2")+2800*(INKEY$="
3")+9799*(INKEY$="4")
1000 GO SUB 9000: PRINT INVERSE
1;" 1 INSTRUCTIONS "
1010 PRINT '"  Place the four fi
ngers of eachhand on the flashin
g keys."
1020 PRINT '"  These are the 'ho
me keys' and your fingers always
 return to   them when they are
not typing."
1025 LET R=1500
1030 GO SUB 1500: GO SUB 9000
1040 PRINT "  Each finger has a
set of keys which only that fing
er touches."
1050 PRINT '"  All except the in
dex fingers  control the vertica
l row of fourkeys that the finge
r's home key is in."
1060 PRINT '"E.g. only the ring
fingers      should touch the fl
ashing keys."
1070 GO SUB 1500: GO SUB 9000
1080 PRINT "  The only exeption
to this is  the index fingers wh
ich must    both control eight k
eys."
1090 PRINT '"  The right hand in
dex finger,  for example, uses a
ll eight of  the flashing keys."
1100 PRINT '"YOU NOW HAVE THE AB
SOLUTE BASICSOF TOUCH-TYPING."
1110 GO SUB 1500: GO TO 150
1500 DATA 17,3,17,6,17,9,17,12,1
7,21,17,24,17,27,17,30
1510 DATA 11,4,11,25,14,5,14,26,
17,6,17,27,20,5,20,26
1520 DATA 11,16,11,19,14,17,14,2
0,17,18,17,21,20,17,20,20
1530 LET I=0: OVER 1: FLASH 1: I
NK 1: PAPER 5: FOR N=1 TO 2: RES
TORE R: FOR M=1 TO 8
1540 READ Y,X: PRINT AT Y,X;"  "
;AT Y+1,X;"  "
1550 NEXT M: IF I=0 THEN INPUT F
LASH 1;" Push ""ENTER"" to conti
nue "; LINE a$: LET I=1
1560 FLASH 0: INK 0: NEXT N: OVE
R 0: INK 6: PAPER 0: LET R=R+10
1570 RETURN
2000 GO SUB 9000: PRINT INVERSE
1;" 2 TRAINING "
2010 PRINT '"  You are required
to type the  characters that wil
l appear on  the top half of the
 screen."
2020 PRINT '"  Do not look at th
e keys as youpush them although
you can look at the screen below
 until you   get a feel for thei
r locations."
2030 INPUT FLASH 1;" Keyboard vi
ssible? (Y/N) "; LINE A$: IF A$<
>"Y" AND A$<>"N" THEN GO TO 2030
2040 GO SUB 9000
2050 IF A$="N" THEN CLS
2060 LET C=0: LET IC=0
2080 PRINT '" "; INVERSE 1;" TYP
E:"
2090 PRINT ''" NUMBER CORRECT: 0
"''" NUMBER INCORRECT: 0"
2095 PRINT ''" TYPE ""STOP"" TO
EXIT"
```

```
2100 LET B$=K$(RND*37+1): IF B$=
" " THEN GO TO 2100
2110 PRINT FLASH 1;AT 1,7;" ";B$
;" "
2120 LET A$=INKEY$: IF A$="" THE
N GO TO 2120
2125 IF CODE A$=226 THEN RUN
2130 IF A$=B$ THEN BORDER 6: BEE
P .1,10: BEEP .2,20: BORDER 0: L
ET C=C+1: PRINT AT 4,17;C
2140 IF A$<>B$ THEN BORDER 2: BE
EP .1,0: BEEP .2,-10: BORDER 0:
LET IC=IC+1: PRINT AT 6,19;IC: G
O TO 2120
2150 GO TO 2100
3000 GO SUB 9000: PRINT INVERSE
1;" 3 TIMED TEST "
3010 PRINT '"  Random words will
 appear and  you must type and "
"ENTER"" them  as fast as possib
le."
3020 PRINT '"  After ten words,
your typing  speed will be calcu
lated."
3030 PRINT '"NO CHEATING & NO KE
YBOARD EITHER"
3040 INPUT FLASH 1;" Push ""ENTE
R"" to begin "; LINE A$: CLS
3050 DRAW 0,175: DRAW 255,0: DRA
W 0,-175: DRAW -255,0
3060 PLOT 0,144: DRAW 255,0
3070 PLOT 127,175: DRAW 0,-175
3080 PRINT AT 1,3;"WORD TO BE";A
T 2,4;"ENTERED:";AT 1,22;"WORD";
AT 2,20;"ENTERED:"
3090 LET W$="    DEARWALLFACEDRAW
LISTNAMEFALLFAMEMAILTAPEHIGHFROM
POSTMODEKEYSBOTHLINEFILMNOSEPART
"
3095 POKE 23674,0: POKE 23673,0:
 POKE 23672,0
3100 FOR N=1 TO 10: LET W=INT (R
ND*20+1): LET B$=W$(W*4 TO W*4+3
): PRINT AT N+4,1;N;TAB 6;B$
3110 INPUT LINE A$: PRINT AT N+4
,22;A$;"     "
3120 IF A$<>B$ THEN GO TO 3110
3130 NEXT N
3140 LET T=FN L(FN T(),FN T())
3150 BEEP 1,0: CLS
3160 PRINT "TIME:",FN R(T);" SEC
ONDS"
3165 PRINT '''"SPEED:",FN R(50/T
);" CHR/SEC"'',FN R(50/T*12);" W
ORDS/MIN"
3170 INPUT FLASH 1;" Push ""ENTE
R"" to continue "; LINE a$: RUN
9000 PRINT AT 0,0;: FOR n=1 TO 1
0: PRINT INK 0;K$( TO 32): NEXT
n: PRINT AT 0,0;: RETURN
9999 BORDER 7: INK 0: PAPER 7: C
LS : STOP
```

Super Draw

Superdraw was written for the 16K Spectrum. Lines can be drawn with the use of cursor keys and to them can be added diagonal lines, curves, circles, triangles and squares. The writers of the program believe that it has a multitude of applications, including drawing maps and designing plans. Full instructions are included with the program.



```
   2 LET o=1
   3 OVER o
   5 INPUT "PAPER?",p: PAPER p:
INPUT "BORDER?",b: BORDER b: INK
 9
   7 PRINT AT 10,0; BRIGHT 1;"DO
 YOU WANT INSTRUCTIONS?         "
   8 IF INKEY$="y" THEN GO TO 11
   9 IF INKEY$="n" THEN GO TO 90
  10 GO TO 8
  11 PRINT BRIGHT 1;'"SUPER DRA
W is a program to aid  the usage
 of hi-resolution      graphics
on the ZX Spectrum"''"Press any
key to continue": PAUSE 0
  12 PAUSE 0: CLS : PRINT BRIGHT
 1'"Here are the facilities
    available in SUPER DRAW ."''
"5,6,7 AND 8 for normal directio
n"''"E,R,D AND F for the points
      inbetween these"''"1 to ret
urn to screen centre"''"Q to cha
nge the plot position"''"W is to
 draw curves ";
  13 PRINT BRIGHT 1''"C to draw
a circle"''"P to make a copy of
the present coordinates for late
r use"''"O to print on screen":
PAUSE 0: CLS : PRINT BRIGHT 1;"I
 to change ink colour"''"G to sa
ve the picture on tape   under g
iven name"''"L to draw a line"''
"V to clear screen"''"Your prese
nt coordinates appear at the bot
tom of the screen"
  15 PRINT BRIGHT 1;'"S is to dr
aw a square when you  input half
 the length of a side."''"0 is t
o input OVER "''"T is to draw a
triangle"''"Z is to stop."'' FLA
SH 1;"     PRESS ANY KEY TO STAR
T     "
  20 PAUSE 0
  90 CLS
 100 LET x=127
 110 LET y=87
 120 PLOT x,y
 125 LET a$=INKEY$
 130 IF a$="5" THEN LET x=x-1: B
EEP 0.005,0: GO TO 170
 131 IF a$="6" THEN LET y=y-1: B
EEP 0.005,13: GO TO 170
 132 IF a$="7" THEN LET y=y+1: B
EEP 0.005,26: GO TO 170
 133 IF a$="8" THEN LET x=x+1: B
EEP 0.005,39: GO TO 170
 134 IF a$="e" THEN LET x=x-1: L
ET y=y+1: BEEP 0.005,-10: GO TO
170
 135 IF a$="d" THEN LET x=x-1: L
ET y=y-1: BEEP 0.005,2: GO TO 17
0
 136 IF a$="r" THEN LET x=x+1: L
ET y=y+1: BEEP 0.005,15: GO TO 1
70
 137 IF a$="f" THEN LET x=x+1: L
ET y=y-1: BEEP 0.005,25: GO TO 1
70
 138 IF a$="l" THEN GO SUB 1000:
 INPUT "PLOT X? ";x: INPUT "PLOT
 Y? ";y: INPUT "DRAW X? ";x1: IN
PUT "DRAW Y? ";y1: PLOT x,y: DRA
W x1-x,y1-y: GO SUB 1001
 139 IF a$="i" THEN INPUT " INK
? ";i: INK i
 140 IF a$="w" THEN GO SUB 1000:
 INPUT "X-AXIS? ";x2: INPUT "Y-A
XIS? ";y2: INPUT "SIZE OF CURVE
";z: LET z=z/180*PI: PLOT x,y: D
RAW x2,y2,z: GO SUB 1001
 141 IF a$="o" THEN INPUT "LINE
? ";l,"COLUMN ? ";c: INPUT "WORD
S ?",w$: PRINT AT l,c;w$
 142 IF a$="c" THEN INPUT "RADIU
S",z: CIRCLE x,y,z
 144 IF a$="s" THEN INPUT "size
of half square? ";a: GO SUB 2000
 146 IF a$="q" THEN INPUT "x-axi
s",n: INPUT "y-axis",m: LET x=n:
 LET y=m: GO TO 170
 148 IF a$="p" THEN PRINT AT 0,0
; OVER 0;x;"     ";AT 0,16;y;"
"

 150 IF a$="1" THEN LET x=127: L
ET y=87: GO TO 170
 152 IF a$="v" THEN CLS
 155 IF a$="0" THEN INPUT " OVER
? ";o: OVER o
 157 IF a$="t" THEN GO SUB 2500
```

```
 16Ø IF a$="g" THEN PRINT AT 21,
Ø; OVER Ø;"     ","     ": INPUT "
NAME ? ";s$: SAVE s$SCREEN$
 165 IF a$="z" THEN STOP
 17Ø IF x>=Ø AND y>=Ø AND x<=255
 AND y<=175 THEN PLOT x,y
 18Ø PRINT AT 21,Ø; OVER Ø;x;"
";AT 21,16;y;"  ": GO TO 125
 2ØØ STOP
1ØØØ INPUT "space between lines?
 ";u: GO SUB 1ØØ1: RETURN
1ØØ1 FOR n=Ø TO 255 STEP u: PLOT
 n,Ø: DRAW OVER 1;Ø,175: NEXT n:
 FOR n=Ø TO 175 STEP u: PLOT Ø,n
: DRAW OVER 1;255,Ø: NEXT n: RET
URN
2ØØØ PLOT x+a,y-a: DRAW Ø,2*a: D
RAW -2*a,Ø: PLOT x+a,y-a: DRAW -
2*a,Ø: DRAW Ø,2*a: RETURN
25ØØ OVER o: INPUT "SIZE OF SIDE
 ";z;: PLOT x,y-z: DRAW z/2,Ø: D
RAW -z/2,z: PLOT x,y-z: DRAW -z/
2,Ø: DRAW z/2,z: OVER 1: RETURN
9999 SAVE "SUPER DRAW" LINE 1: P
AUSE Ø: VERIFY "SUPER DRAW": PAU
SE Ø: RUN
```

Overload

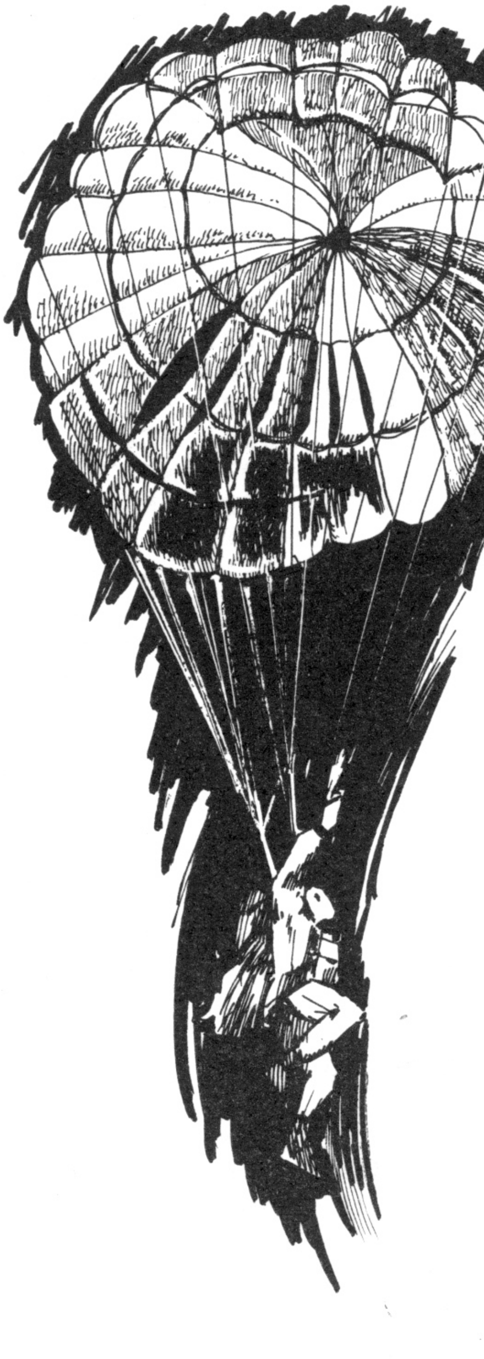
A new atomic power generator being tested has suddenly gone critical and started to OVERLOAD. The only way to stop it exploding is to catch the radioactive isotapes in a lead container. If you touch the highly-radioactive lining of the reactor your lead container will melt and one of your three lives will be lost. You gain 1000 points for each isotope you catch but lose 10 for each square of the lining that melts. Written for the 16K and 48K.

```
   1 LET sc=Ø: LET hi=Ø: GO SUB
1ØØØ: CLS
   2 IF sc>hi THEN LET hi=sc
   5 LET d=Ø: LET pd=Ø: LET l$="
CCC": LET l=3: LET xx=9: LET yy=
9: LET sc=Ø
   6 PRINT AT 11,23;" ATOMIC ";A
T 13,23;"OVERLOAD": PLOT 182,89:
 DRAW 67,Ø: DRAW Ø,-26: DRAW -67
,Ø: DRAW Ø,26
  2Ø RANDOMIZE
  3Ø PLOT Ø,Ø: DRAW 175,Ø: DRAW
Ø,175: DRAW -175,Ø: DRAW Ø,-175
  4Ø FOR a=1 TO 8: PRINT AT a,1;
 INK 5;"AAAAAAAAAAAAAAAAAAAA": N
EXT a
  5Ø FOR a=9 TO 12: PRINT AT a,1
; INK 5;"AAAAAAAA    AAAAAAAA":
NEXT a
  6Ø FOR a=13 TO 2Ø: PRINT AT a,
1; INK 5;"AAAAAAAAAAAAAAAAAAAA":
 NEXT a
  7Ø LET points=1ØØØ: LET x=1Ø:
LET y=1Ø: LET xi=INT (RND*3)-1:
LET yi=INT (RND*3)-1
  8Ø PRINT AT y,x;" ": LET ox=xx
: LET oy=yy
  85 PRINT AT 1,22;"PTS:";points
;" ";AT 3,22;"SCR:";sc;" ";AT 5,
22;"LIVES:";l$( TO l);" ";AT 7,2
2;"HI:";hi: IF d=1 THEN PRINT AT
 9,23; FLASH 1; INK 2; PAPER 6;"
RED ALERT"
  9Ø LET x=x+xi: LET y=y+yi
  91 LET xx=xx+(IN 65278=251)-(I
N 65278=253): LET yy=yy+(IN 4915
Ø=253)-(IN 57342=254)
  93 IF xx<1 THEN LET xx=1
  94 IF xx>2Ø THEN LET xx=2Ø
  95 IF yy<1 THEN LET yy=1
  96 IF yy>2Ø THEN LET yy=2Ø
  97 IF ox=xx AND oy=yy THEN GO
TO 1ØØ
  98 IF SCREEN$ (yy,xx)<>" " OR
pd=1 THEN LET pd=Ø: PRINT AT oy,
ox;" ": PRINT AT yy,xx; FLASH 1;
"C": LET l=l-1: FOR a=2Ø TO -2Ø
STEP -2: BEEP .Ø5,a: NEXT a: IF
l=Ø THEN FOR a=-19 TO 2Ø: BEEP .
Ø5,a: NEXT a: PRINT #1;"PRESS AN
Y KEY TO PLAY AGAIN...": PAUSE Ø
: CLS : GO TO 2
  99 PRINT AT oy,ox;" "
 1ØØ IF SCREEN$ (y,x)<>" " THEN
LET points=points-1Ø: BEEP .Ø5,1
Ø: GO TO 5ØØ
 1Ø5 IF xi=Ø AND yi=Ø THEN LET x
i=INT (RND*3)-1: LET yi=INT (RND
*3)-1
 1Ø6 IF d<>Ø THEN LET points=poi
nts-1Ø
 1Ø7 IF points<=Ø THEN LET pd=1:
 LET points=1ØØØ: LET x=1Ø: LET
y=1Ø: PRINT AT 1,22;"PTS:Ø   ":
GO TO 98
 11Ø IF x<=1 THEN LET x=1: LET d
=1
 111 IF x>=2Ø THEN LET x=2Ø: LET
 d=1
 112 IF y<=1 THEN LET y=1: LET d
=1
 113 IF y>=2Ø THEN LET y=2Ø: LET
 d=1
 118 PRINT AT yy,xx;"C";AT y,x;
OVER 1; INK 2;"B"
 119 IF y=yy AND x=xx THEN BEEP
.5,1Ø: LET sc=sc+points: PRINT A
T y,x; OVER 1;"B": GO TO 7Ø
 12Ø FOR a=1 TO 5: NEXT a
 13Ø GO TO 8Ø
 5ØØ IF xi=-1 AND RND>.5 THEN LE
T xi=xi+(INT (RND*2)+1): GO TO 5
2Ø
 51Ø IF xi=1 AND RND>.5 THEN LET
 xi=xi-(INT (RND*2)+1): GO TO 52
Ø
 515 LET xi=1
 52Ø IF yi=-1 AND RND>.5 THEN LE
T yi=yi+(INT (RND*2)+1): GO TO 5
4Ø
 53Ø IF yi=1 AND RND>.5 THEN LET
 yi=yi-(INT (RND*2)+1): GO TO 54
Ø
 535 LET y1=1
 54Ø GO TO 1Ø5
1ØØØ REM Instructions & UDG's
1ØØ5 FOR a=USR "A" TO USR "C"+7:
 READ d: POKE a,d: NEXT a
1Ø1Ø PLOT Ø,Ø: DRAW 255,Ø: DRAW
Ø,175: DRAW -255,Ø: DRAW Ø,-175
```

```
1020 PRINT AT 0,0; INVERSE 1;" A
TOMIC OVERLOAD                  "
1030 PRINT AT 2,0; OVER 1;"    A
new atomic power generator  bein
g tested has suddenly gone  crit
ical and is starting to     over
load."
1040 PRINT AT 7,0; OVER 1;"   Th
e only way to prevent the   gene
rator from exploding is     to c
atch the radioactive        isot
opes moving randomly about  the
generator.The lining of     the
reactor was designed to     prev
ent the isotope from        brea
king out of the reactor     but
the isotope is only slowed  by t
he lining and can eat       thro
ugh it!"
1050 INPUT "": PRINT #1;"PRESS A
NY KEY TO CONTINUE"
1060 IF INKEY$="" THEN GO TO 106
0
1070 BEEP .5,10: BEEP .5,20
1080 FOR a=2 TO 20: PRINT AT a,1
;"
": NEXT a
1090 PRINT AT 2,0; OVER 1;"   To
 catch the isotope a lead   cont
ainer must be maneuvered    abov
e it"
1100 PRINT AT 6,0; OVER 1;"   Yo
u must avoid the lining of  the
reactor as it is highly     radi
oactive and if you move     the
lead container onto the     lini
ng the container will melt  and
you will lose one of your   thre
e lives."
1110 PRINT AT 13,0; OVER 1;"  10
00 pts are awarded for each  iso
tope you catch but this is   red
uced by 10 for each square   of
lining the isotope melts."
1120 PRINT AT 17,0; OVER 1;" If
the 1000 pts are reduced to  zer
o you lose a life.If the     rea
ctor is punctured the 1000   pts
 will drop rapidly."
1130 IF INKEY$="" THEN GO TO 113
0
1140 BEEP .5,10: BEEP .5,20
1150 FOR a=2 TO 20: PRINT AT a,1
;"
": NEXT a
1170 PRINT AT 2,1; INVERSE 1;"CO
NTROLS"
1180 PRINT AT 4,0; OVER 1;"   X -
 move RIGHT.                 Z -
 move LEFT.                  P -
 move UP.                    L -
 move DOWN."
1185 PRINT AT 9,0; OVER 1;"   To
 move diagonaly press the   corr
esponding keys at the same  time
 (eg To go towards the TOP  RIGH
T corner press 'X' and 'P'  simu
ltaneously)"
1190 PRINT AT 15,0; OVER 1;"  Le
ad container        - C      Ra
dioactive isotope   - "; INK 2;"B
"; INK 0;"        Reactor lining
       - "; INK 5;"A"
1200 IF INKEY$="" THEN GO TO 120
0
1210 FOR a=-20 TO 30 STEP 2: BEE
P .05,a: BEEP .02,a-10: NEXT a:
RETURN
1220 DATA 0,127,127,127,127,127,
127,127,0,0,8,28,62,28,8,0,60,66
,129,129,129,129,66,60
```

Parachute Drop

As the aircraft flies across the screen, jump by pressing O. Pressing 9 opens your parachute, allowing you to steer with keys 5 and 8. Your aim is to land on the randomly-placed landing pad each time and the later you open your 'chute the more points you gain. After you have dropped 10 times, if your score is more than 120 and you still have five lives remaining, the game will continue with the aircraft flying lower.



```
   1 REM "drop"
   2 GO SUB 5000
   3 LET p$=" O "
   4 LET sc=0: LET n=2: LET l=3:
 LET i=3: LET cs=120
   5 LET t=INT (RND*31)
   6 IF t>27 THEN GO TO 2: IF t<
2 THEN GO TO 2
   7 LET g$="(96*isp)"
   8 LET m$=" R "
   9 LET a$=" PT "
  10 INPUT "what speed? ";s
  11 PRINT AT 19,0; INK 4;g$
  12 IF s>10 THEN GO TO 10
  20 PRINT AT 21,3;"press any ke
y to start"
  40 PAUSE 0
  41 PAUSE 20: CLS : FOR e=10 TO
 1 STEP -1
  42 LET t=INT (RND*30)
  43 CLS : PRINT AT 0,0;"SCORE="
;sc;"  LIVES=";l;"  DROPS=";e
  45 LET a=n: LET b=0
  47 PRINT AT 18,t; INK 0;"XXX"
  49 REM **PLANE**
  50 PRINT AT a,b;a$: PAUSE s
  51 PRINT AT 19,0; INK 4;g$
  60 LET b=b+1: IF b>30 THEN PRI
NT AT 10,7;"out of time": PAUSE
40: CLS : PRINT AT 19,0; INK 4;g
$: PRINT AT 18,t; INK 0;"XXX": G
O TO 3000
  70 IF INKEY$="0" THEN GO TO 10
00
  80 GO TO 50
 999 REM **FALL**
1000 LET c=a: LET d=b
1002 PRINT AT 18,t; INK 0;"XXX"
1010 PRINT AT c,d;m$;AT c-1,d+1;
" "
1013 IF INKEY$="9" THEN GO TO 10
39
1015 PAUSE 3
1020 LET c=c+1: IF c>18 THEN GO
TO 3000
1030 GO TO 1010
1038 REM **SHUTE**
1039 IF C>17 THEN GO TO 1002
1040 LET z=c
1041 PRINT AT c,d;p$;TAB d;m$;AT
 c-1,d+1;" ": FOR f=1 TO 50: NEX
T f
1042 PRINT AT c,d+1;" "
1043 LET c=c+1
1045 IF c=17 AND d=t THEN GO TO
2000
1046 IF c>17 THEN GO TO 3000
1050 LET d=d+(INKEY$="8")-(INKEY
$="5"): IF d>30 THEN LET d=d-1
1060 IF d<0 THEN LET d=d+1
1070 GO TO 1041
2000 PRINT AT 17,t;m$: BEEP .05,
10
2010 LET sc=sc+z
2015 PAUSE 50
2020 NEXT e
2998 IF l=i AND sc>=cs THEN LET
l=l+1: GO TO 4200
2999 REM **LIVES**
3000 LET l=l-1
3001 IF l=0 THEN GO TO 4000
3002 BEEP .5,-10
3010 NEXT e
4000 PRINT AT 19,0; INK 4;g$: PR
INT AT 0,0;"SCORE=";sc;"  LIVES=
";l+1;AT 0,19;" DROPS=";e+1: PRI
NT AT 15,10;"GAME OVER"
4001 FOR g=5 TO -5 STEP -1: BEEP
 .05,g: NEXT g: STOP
4200 LET n=n+2: FOR z=1 TO 20: B
EEP .01,z+1: BEEP .01,z-1: NEXT
z: IF a>13 THEN PRINT AT 10,0;"y
ou've succesfully finished your
mition": STOP
4201 LET i=i+1: LET cs=cs*2
4205 LET e=10: GO TO 20
5000 FOR f=0 TO 7: READ a: POKE
USR "p"+f,a: NEXT f
5001 FOR n=0 TO 7: READ b: POKE
USR "t"+n,b: NEXT n
5002 FOR g=0 TO 7: READ c: POKE
USR "r"+g,c: NEXT g
5003 FOR h=0 TO 7: READ d: POKE
USR "o"+h,d: NEXT h
5010 DATA BIN 0,BIN 11000000,BIN
 11000111,BIN 11111100,BIN 11111
110,BIN 11111101,BIN 00000111,BI
N 0
5020 DATA BIN 0,BIN 0,BIN 111000
00,BIN 00111111,BIN 01011111,BIN
```

```
 1ØØ1111Ø,BIN 111ØØØØØ,BIN Ø
5Ø3Ø DATA BIN ØØØ111ØØ,BIN Ø1Ø11
1Ø1,BIN Ø1ØØ1ØØ1,BIN ØØ11111Ø,BI
N ØØØØ1ØØØ,BIN ØØØ1Ø1ØØ,BIN ØØ1Ø
ØØ1Ø,BIN ØØ1ØØØ1Ø
5Ø4Ø DATA BIN ØØ11111Ø,BIN ØØ111
11Ø,BIN Ø1111111,BIN 11111111,BI
N Ø1ØØØØ1Ø,BIN Ø1ØØØØ1Ø,BIN Ø1ØØ
ØØ1Ø,BIN ØØ1ØØ1ØØ
5Ø5Ø PAPER 5: CLS
5Ø6Ø RETURN
```

Protector

You are in control of a laser tower on the surface of a planet which must be protected from falling meteors. Each time you hit a meteor you gain 10 points but lose 5 energy units. You gain 5 units each time a meteor hits the surface of the planet. If a meteor reaches the reactor at the bottom of the screen you will be destroyed. Move left with 'R' and right with 'T'. For the 16K Spectrum.

```
  5 LET HS=0
 10 DATA 0,0,0,34,103,247,255,2
55,255,255,255,195,195,255,255,2
55,0,0,31,63,127,255,255,255,0,0
,248,252,254,255,255,255,128,192
,224,246,246,224,192,128,1,3,7,1
11,111,7,3,1
 15 DATA 0,62,63,127,255,254,12
0,48,128,32,1,4,16,64,10,144
 30 FOR n=144 TO 151
 35 FOR i=0 TO 7: READ z: POKE
USR CHR$ n+i,z: NEXT i
 40 NEXT n
100 GO TO 7000
500 LET O=0
505 LET E=200: LET sc=0
1000 PAPER 0: INK 0: BORDER 0: B
RIGHT 1: CLS
1001 INK 7: BRIGHT 1: PLOT 200,1
75: DRAW 40,-40,2
1004 INK 7: BRIGHT 1: CIRCLE 50,
149,16: FOR N=0 TO 60: INK 7: PL
OT INT (RND*255),INT (RND*40)+13
5: BEEP .005,0: NEXT N
1005 INK 6: PAPER 0: PRINT AT 17
,0;"AAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAA"
1010 PRINT AT 18,0;"(32*isp)"
1015 PAPER 0: INK 5: PRINT AT 19
,0;"BBBBBBBBBBBBBBBBBBBBBBBBBBBB
BBBB"
1020 PRINT AT 20,0; INK 0; PAPER
 5;"
    "
1025 INK 2: PAPER 0: PRINT AT 21
,0;"CDCDCDCDCDCDCDCDCDCDCDCDCDCD
CDCD"
1030 FOR n=14 TO 19: PRINT AT n,
15; INK 5; PAPER 0;"BB": NEXT n
1035 PRINT AT 14,14; INK 5; PAPE
R 0;"F"
1040 PRINT AT 14,17; INK 5; PAPE
R 0;"E"
1045 INK 5: PRINT AT 10,10;"HIGH
 SCORE - ";HS
1050 FOR N=0 TO 30: BEEP .02,N:
BEEP .02,N-5: BEEP .03,N+5: NEXT
 N
1060 INK 0: PAPER 0: BRIGHT 1: P
RINT AT 10,10;"
 "
2000 IF E<0 THEN LET E=0
2002 PRINT #1;AT 1,0; BRIGHT 1;"
SCORE ";SC: PRINT #1; INK 7; BRI
GHT 1;AT 1,16; INK 7; BRIGHT 1;"
ENERGY ";E;" "
2004 LET n=INT (RND*32)
2005 FOR g=7 TO 21
2010 PRINT AT g-1,n; INK 0; PAPE
R 0; BRIGHT 1;" "
2011 IF INKEY$="" THEN GO TO 202
0
2013 IF e<=0 THEN GO TO 2020
2014 IF N>13 THEN GO TO 2017
2016 IF INKEY$="r" OR INKEY$="R"
 THEN INK 7: PLOT 108,60: DRAW -
108,0: INK 0: PLOT 108,60: DRAW
-108,0: GO SUB 9000
2017 IF N<18 THEN GO TO 2020
2018 IF INKEY$="t" OR INKEY$="T"
 THEN INK 7: PLOT 148,60: DRAW 1
00,0: INK 0: PLOT 148,60: DRAW 1
00,0: GO SUB 9000
2020 IF ATTR (g,n)<>64 THEN GO T
O 5000
2022 INK 6: BRIGHT 1: PRINT AT g
,n;"G"
2025 NEXT g
5000 LET E=E+5
5005 IF n=14 OR n=15 OR n=16 OR
n=17 THEN FOR p=0 TO 4: PRINT AT
 g-1,n; INK 7;"H": BEEP .02,0: B
EEP .02,1: NEXT p: PRINT AT g-1,
n; PAPER 0; INK 0; BRIGHT 1;" ":
 GO TO 2000
5025 IF G=21 THEN PRINT AT G-1,N
;" ": GO TO 5060
5050 FOR p=0 TO 4: PRINT AT g,n;
 INK 7;"H": BEEP .02,0: BEEP .02
,1: NEXT p: PRINT AT g,n; INK 0;
 BRIGHT 1; PAPER 0;" ": IF G<>21
 THEN GO TO 2000
5061 FOR N=-10 TO 20: BEEP .02,1
0: PRINT AT 21,0; INK 6; PAPER 0
; BRIGHT 1;"CDCDCDCDCDCDCDCDCD
CDCDCDCDCDCD"
5062 BEEP .02,15: PRINT AT 21,0;
 INK 2; PAPER 0; BRIGHT 1;"CDCDC
DCDCDCDCDCDCDCDCDCDCDCDCD"
5063 BEEP .02,N+15: PRINT AT 21,
```

```
Ø; INK 7; PAPER Ø; BRIGHT 1;"CDC
DCDCDCDCDCDCDCDCDCDCDCDCDCDCDCD":
NEXT N
5Ø7Ø GO TO 9999
7ØØØ PAPER Ø: BORDER Ø: BRIGHT 1
: INK 7: CLS
7ØØ5 PRINT AT Ø,11;"PROTECTOR";T
AB 11;"---------"
7Ø1Ø LET H$=STR$ HS: PRINT AT Ø,
3; INK 7;"*HI*";AT Ø,23;"*ØØØØØ*
";AT Ø,32-3-LEN H$;HS
7Ø15 INK 7: PRINT AT 3,Ø;"YOU CO
NTROL A LASER TOWER ON THESURFAC
E OF A PLANET WHICH HAS TOBE DEF
ENDED FROM FALLING METEORS"
7Ø2Ø PRINT AT 8,Ø;"YOU GET 1Ø PO
INTS FOR EACH HIT  BUT YOU ALSO
LOSE 5 ENERGY UNITSYOU GAIN FIVE
 UNITS EACH TIME A METEOR HITS T
HE PLANET SURFACE  PLUS 25 ENERG
Y UNITS FOR EACH   1ØØ POINTS"
7Ø25 PRINT AT 15,Ø;" IF A METEOR
 HITS THE REACTOR AT THE BOTTOM
OF THE SCREEN,THE     PLANET WILL
 BE DESTROYED"
7Ø3Ø PRINT AT 19,Ø;"' ' / ' ' TO
 FIRE LEFT / RIGHT": INK 5: PRIN
T AT 19,1;"R";AT 19,7;"T"
7Ø4Ø PRINT AT 21,5; INK 7;"PRESS
 ANY KEY TO PLAY"
7Ø42 IF INKEY$<>"" THEN GO TO 5Ø
Ø
7Ø44 GO TO 7Ø42
7999 PAUSE Ø
8ØØØ INK 7: LET A$="YOUR PLANET
HAS BEEN DESTROYED": LET B$="  Y
OU MANAGED TO SCORE "
8ØØ5 FOR N=1 TO LEN A$: PRINT A$
(N);: BEEP .Ø5,2Ø: NEXT N
8ØØ7 FOR N=Ø TO 1ØØ: NEXT N
8Ø1Ø PRINT : PRINT : FOR N=1 TO
LEN B$: PRINT B$(N);: BEEP .Ø5,2
Ø: NEXT N
8Ø15 LET s$=STR$ sc: INK 7: FLAS
H Ø: PRINT AT 2,LEN B$;"ØØØØØ";A
T 2,31-LEN s$-3;sc: FOR N=Ø TO 3
Ø: BEEP .Ø1,N+5: BEEP .Ø1,n-5: N
EXT N
8Ø16 IF SC<=HS THEN LET I=25Ø
8Ø17 INK 7: IF SC>HS THEN PRINT
AT 1Ø,Ø; FLASH 1;"YOU HAVE BEATE
N THE HIGH SCORE": LET I=4ØØ: LE
T HS=SC
8Ø2Ø FOR N=Ø TO I: NEXT N
8Ø25 INK 7: BRIGHT 1: CLS : PRIN
T AT 1,2;"----------------------
------";TAB Ø;"DO YOU WANT TO PL
AY AGAIN (Y/N)";TAB 2;"---------
-------------------"
8Ø3Ø IF INKEY$="Y" OR INKEY$="y"
 THEN GO TO 7ØØØ
8Ø35 IF INKEY$="N" OR INKEY$="n"
 THEN STOP
8Ø4Ø GO TO 8Ø3Ø
9ØØØ LET E=E-5
9ØØ5 IF g=14 THEN FOR p=Ø TO 4:
BEEP .Ø2,2Ø: BEEP .Ø2,19: PRINT
AT g,n; INK 7;"H": NEXT p: LET O
=O+1: LET sc=sc+1Ø: PRINT AT g,n
; INK Ø; BRIGHT 1; PAPER Ø;" "
9ØØ6 IF O=1Ø THEN LET E=E+25: LE
T O=Ø
9ØØ7 IF g=14 THEN GO TO 2ØØØ
9Ø1Ø RETURN
9998 GO TO 2ØØØ
9999 BRIGHT 1: FOR N=Ø TO 1Ø: PA
PER 7: CLS : PAPER Ø: CLS : NEXT
 N: GO TO 8ØØØ
```

Driver

Move your car along the road, steering left with 8 and right with O. Do not crash into the side of the road or you will lose one of your two lives. Run over bags of money to gain extra points. A change in the colour of the road will be heralded by a small bleeping sound and each time the road colour changes it will also become narrower. For the 16K Spectrum.

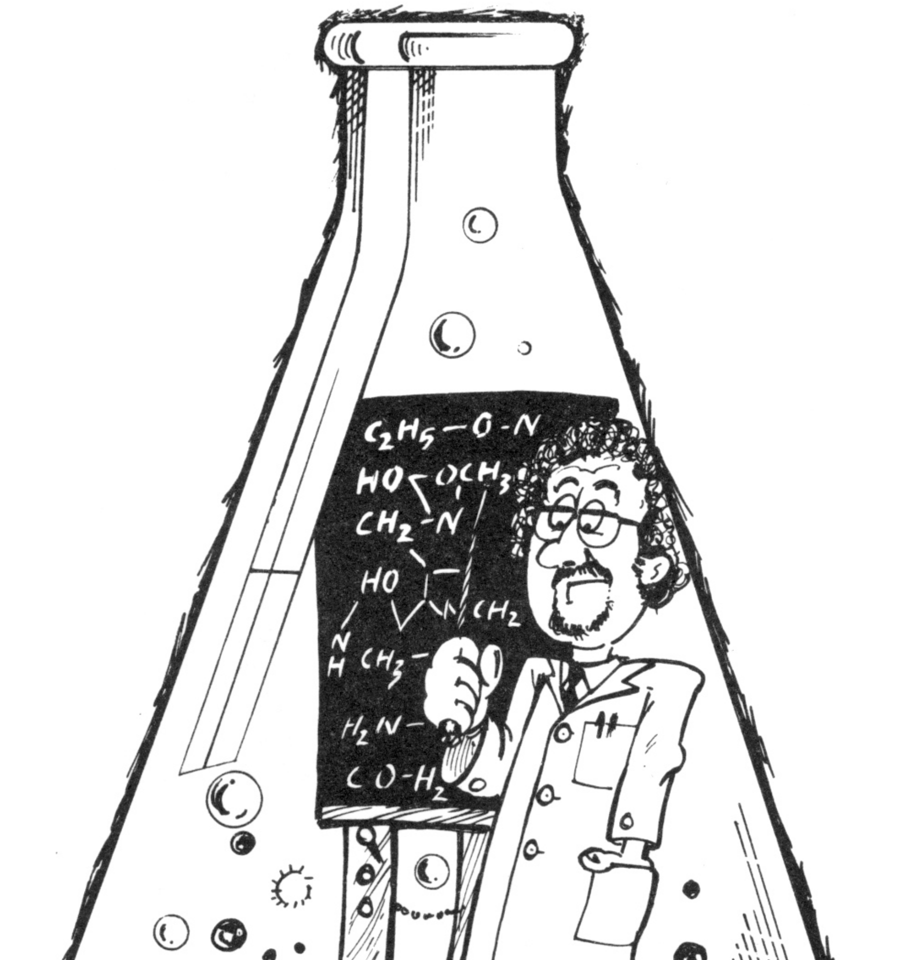
```
   3 PAPER Ø: BORDER Ø: INK 7
   4 LET l=2: GO SUB 39Ø: GO SUB
 3ØØ
   5 LET r$="BB          BB"
   6 LET a=9
   7 LET s=Ø
  1Ø FOR n=Ø TO 2Ø: PRINT "(32*i
sp)": NEXT n: PRINT "BBBBBB(1Ø*i
sp)BBBBBBBBBBBBBBBB"
  2Ø LET rl=5
  3Ø FOR g=Ø TO 8ØØ
  4Ø LET s=s+1
  5Ø IF RND>.8 THEN PRINT AT INT
 2Ø,INT (RND*3Ø); INK 7; INVERSE
 1;"B"
  6Ø IF RND>.9 THEN PRINT AT INT
 2Ø,rl+INT (RND*4); INK 6; INVER
SE 1;"C"
  7Ø IF g=1ØØ THEN BEEP .1,1: BE
EP .1,2: BEEP .1,3: BEEP .1,1: I
NK 6: LET r$="BB         BB"
  8Ø IF g=25Ø THEN BEEP .1,1: BE
EP .1,2: BEEP .1,3: BEEP .1,1Ø:
INK 5: LET r$="BB        BB"
  9Ø IF g=4ØØ THEN BEEP .1,-1Ø:
BEEP .1,-8: BEEP .1,-6: BEEP .1,
-1Ø: INK 6: LET r$="BB     BB"
 1ØØ IF g=55Ø THEN BEEP .1,Ø: BE
EP .1,-1Ø: BEEP .1,Ø: BEEP .1,-1
Ø: INK 5: LET r$="BB    BB"
 11Ø IF g=7ØØ THEN BEEP .1,Ø: BE
EP .1,1Ø: BEEP .1,-1Ø: BEEP .1,-
1Ø: INK 5: LET r$="BB  BB"
 12Ø LET a=a+(INKEY$="Ø")-(INKEY
$="8")
 13Ø BEEP .ØØ2,Ø: BEEP .ØØ2,1
 14Ø POKE 23692,255
 15Ø PRINT AT 21,31;"  "
 16Ø IF rl>=18 THEN LET rl=18
 17Ø IF rl<=1 THEN LET rl=1
 18Ø PRINT AT 21,rl; PAPER 2; IN
VERSE 1;r$
 19Ø PRINT AT 9,a; INVERSE 1;"A"
 2ØØ LET rl=rl+INT (RND*3): LET
rl=rl-INT (RND*3)
 21Ø IF ATTR (1Ø,a)=6 THEN BEEP
.2,1Ø: BEEP .1,-1Ø: BEEP .1,Ø: L
ET s=s+3Ø: PRINT AT 1Ø,a;"(isp)"
 22Ø IF SCREEN$ (1Ø,a)<>" " THEN
 GO SUB 25Ø
 23Ø NEXT g: CLS : FOR n=Ø TO 1Ø
: BEEP .1,INT (RND*6Ø): NEXT n:
GO TO 1Ø
 24Ø STOP
 25Ø LET l=l-1: FOR n=Ø TO 5: BE
EP .2,-1Ø: PRINT AT 1Ø,a; FLASH
1;"B": BEEP .2,-1: PRINT AT 1Ø,a
; FLASH 1;"A": NEXT n
 26Ø IF l>1 THEN GO SUB 29Ø: NEX
T g
 27Ø IF l<=Ø THEN CLS : BEEP .Ø1
,-1Ø: PRINT AT 1Ø,1Ø;"NO LIVES L
EFT";AT 15,1Ø;"SCORE= ";s: PRINT
 AT 21,Ø; FLASH 1;"ANY KEY TO CO
NTINUE": IF INKEY$="" THEN PAUSE
 Ø: PAUSE 1Ø: RUN
 28Ø LET rl=5: INK 7: FOR n=Ø TO
 2Ø: PRINT "(32*isp)": NEXT n: P
RINT "BBBBBB(1Ø*ig8)BBBBBBBBBBBB
BBBB"
 29Ø RETURN
 3ØØ FOR f=Ø TO 1
 31Ø FOR n=4 TO 7: INK n
 32Ø BEEP .Ø3,n+n
 33Ø PRINT AT Ø,13;"DRIVER";AT 1
,12;"CCCCCCCC"
 34Ø PRINT '''" You must drive a
long the road   for as long as p
ossible without hitting the rock
s (B),and also  collecting the b
ags of money    for extra points
."
 35Ø PRINT '" You have only 2 li
ves"
 36Ø PRINT '' FLASH 1;"KEYS"' FL
ASH Ø;" '8' is left,"'" 'Ø' is r
ight."
 37Ø NEXT n: NEXT f
 38Ø PRINT AT 21,1Ø; FLASH 1;"AN
Y KEY TO START": IF INKEY$="" TH
EN GO TO 38Ø
 385 CLS : RETURN
 39Ø FOR q=1 TO 3: READ a$: FOR
n=Ø TO 7: READ a: POKE USR a$+n,
a: NEXT n: NEXT q
 4ØØ CLS : RETURN
 41Ø DATA "a",44,118,239,247,239
,247,11Ø,52,"b",14,126,94,127,25
3,127,9Ø,6Ø,"c",126,6Ø,1Ø2,219,1
43,223,195,126
```

```
 420 CLS : PRINT AT 10,10; FLASH
 1;"STOP THE TAPE": PAUSE 200: R
UN
 500 SAVE "DRIVER" LINE 420
```

Periodic Table

Written for 16K Spectrum owners who are studying chemistry. The program will print on-screen the entire periodic table, or a selected part of it. Each element is shown, together with its symbol, its mass numbers and the appropriate number of protons, neutrons and electrons.

The advantage the program has over a table in a book is that it will also be able to test you on the entire periodic table or on any part of it.



```
 10 BORDER 1: PAPER 7: INK 1: C
LS : POKE 23609,50
 100 PRINT AT 3,9;"PERIODIC TABL
E"
 110 PRINT AT 10,4;"This program
 is designed"';AT 11,4;"to help
you learn about";AT 12,4;"the P
eriodic Table.There";AT 13,4;"ar
e instructions through";AT 14,4;
"the program  to tell you";AT 15
,7;"how to operate it.";AT 17,5;
"PRESS ANY KEY TO START": PAUSE
0
 120 CLS : PRINT ''"  Now you mu
st choose which partof the progr
am you wish to use.  When you h
ave decided from thelist below,
press the number by the one you
want and you will   get the part
 you require."
 130 PRINT '';" 1 Choose an elem
ent."''" 2 Element test."''" 3 R
un through the whole table."''"
 4 End the program."
 140 LET a$=INKEY$: IF a$="1" OR
 a$="2" OR a$="3" OR a$="4" THEN
 GO TO VAL a$*1000
 150 GO TO 140
1000 CLS : PRINT ''" Enter the N
AME or SYMBOL of theelement you
wish to know about  and press th
e 'ENTER' key."''" Don't forget t
o use a capital  letter at the b
egining of each  NAME or SYMBOL.
"
1010 INPUT n$: FOR b=1 TO 103: R
ESTORE 4998+b*2: READ j$,s$: IF
n$=j$ OR n$=s$ THEN GO TO 1100
1020 NEXT b: CLS : PRINT ''" The
re is no such element.": GO TO 1
110
1100 READ a: CLS : PRINT ''" Ele
ment:- ";j$''" Symbol:- ";s$''"
Atomic number:- ";b''" Mass numb
er:- ";a''" Number of protons:-
";b''" Number of newtons:- ";a-b
''" Number or electons:- ";b
1110 PRINT '" Another element Y/
N?"
1120 IF INKEY$="y" THEN GO TO 10
00
1130 IF INKEY$="n" THEN GO TO 12
0
1140 GO TO 1120
2000 CLS : PRINT ''"  You will n
ow be tested on the elements.  Y
ou will be asked a  number of qu
estions on each ele-ment."''"  Do
n't forget to use a capital lett
er for names and symbols.  Now
enter how far down the tableyou
want to be tested on and    pres
s 'ENTER'."
2010 INPUT nd: IF nd<1 OR nd>103
 THEN GO TO 2010
2020 CLS : PRINT "The questions
on each element   will be printe
d up one by one.  After answerin
g a question press'ENTER'."
2030 LET rn=INT (RND*nd)+1: REST
ORE 4998+rn*2: READ j$,s$,a: PRI
NT '" Element:- ";j$''" Symbol:-
";: GO SUB 2200
2040 IF q$=s$ THEN GO SUB 2300:
GO TO 2050
2045 GO SUB 2310
2050 PRINT ''" Atomic number:-";
: GO SUB 2200: IF q$=STR$ rn THE
N GO SUB 2300: GO TO 2060
2055 GO SUB 2310
2060 PRINT ''" Mass number:-";:
GO SUB 2200: IF q$=STR$ a THEN G
O SUB 2300: GO TO 2070
2065 GO SUB 2310
2070 PRINT ''" Number Protons:-"
;: GO SUB 2200: IF q$=STR$ rn TH
EN GO SUB 2300: GO TO 2080
2075 GO SUB 2310
2080 PRINT ''" Number Neutrons:-
";: GO SUB 2200: LET op=a-rn: IF
 q$=STR$ op THEN GO SUB 2300: GO
 TO 2087
2085 GO SUB 2310
2087 PRINT ''" Number Electrons:
-";: GO SUB 2200: IF q$=STR$ rn
THEN GO SUB 2300: GO TO 2100
2090 GO SUB 2310
2100 PRINT ''" Another test Y/N"
2110 IF INKEY$="y" THEN GO TO 20
20
```

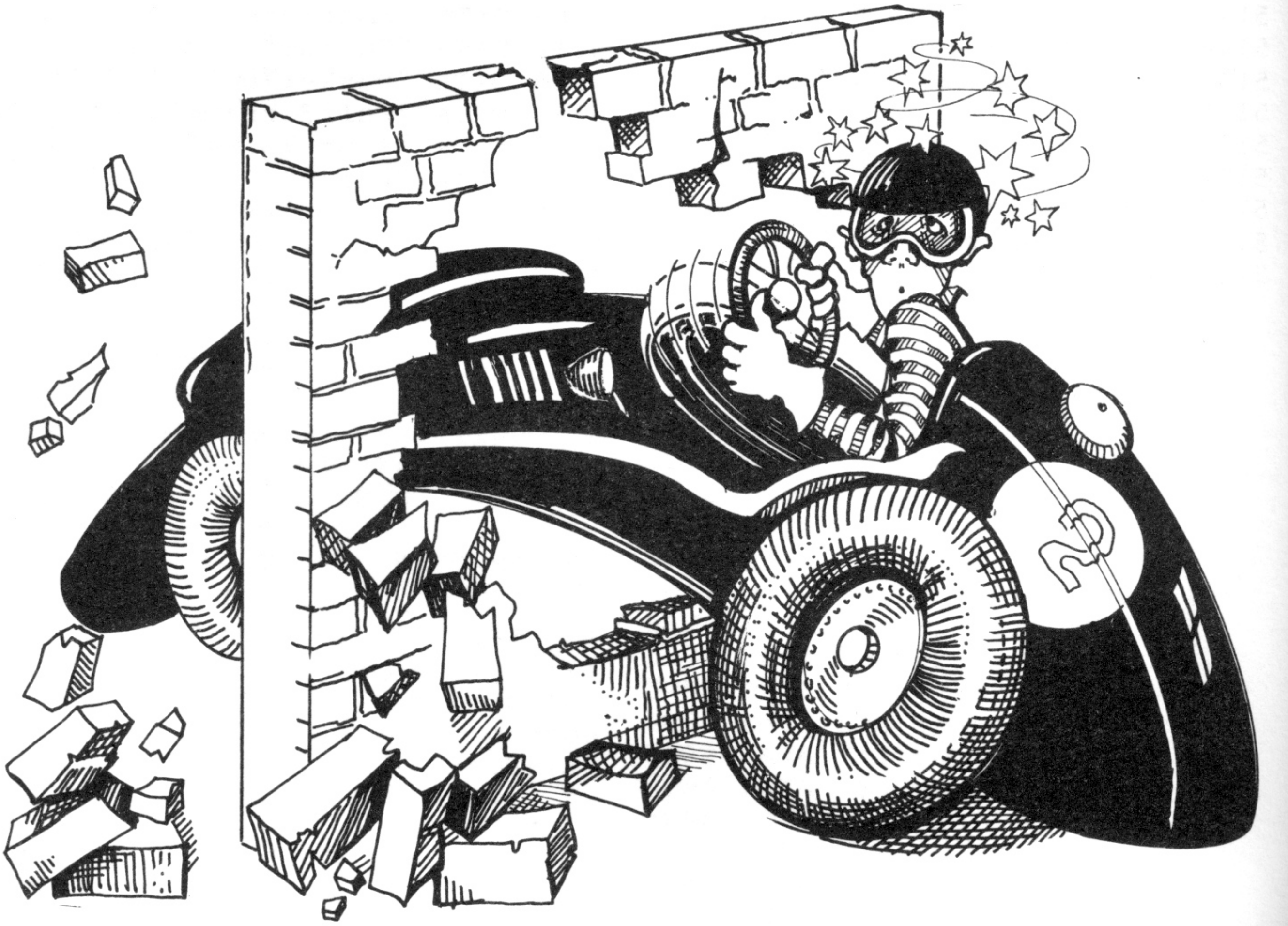
```
2120 IF INKEY$="n" THEN GO TO 12
0
2130 GO TO 2110
2200 INPUT q$: PRINT " ";q$;: RE
TURN
2300 PRINT " RIGHT";: FOR l=1 TO
 50 STEP 5: BEEP .05,l: NEXT l:
RETURN
2310 PRINT " WRONG";: BEEP 1,-1:
 RETURN
3000 CLS : PRINT ''"  You now ge
t each element put  on the scree
n one by one."'"  Now enter the
atomic number   you wish to star
t and finsh at."
3010 INPUT "Start ";st: IF st<1
THEN GO TO 3010
3012 INPUT "Finish ";fi: IF fi>1
03 THEN GO TO 3012
3014 IF st>fi THEN GO TO 3010
3015 CLS : PRINT ''"  Press '1'
if you want to pressa key after
each element."'"  Press '2' if y
ou want it to   change the eleme
nt after a time."
3020 IF INKEY$="1" THEN LET de=0
: GO TO 3050
3030 IF INKEY$="2" THEN INPUT "D
elay time (lower=faster) ";de: L
ET de=de+1: GO TO 3050
3040 GO TO 3020
3050 FOR b=st TO fi: RESTORE 499
8+b*2: READ j$,s$,a
3070 CLS : BEEP .05,2: PRINT ''"
 Element:- ";j$''" Symbol:- ";s$
''" Atomic number:- ";b''" Mass
number:- ";a''" Number of proton
s:- ";b''" Number of neutrons:-
";a-b''" Number or electons:- ";
b
3080 PAUSE de: NEXT b: GO TO 120
5000 DATA "Hydrogen","H",1
5002 DATA "Helium","He",4
5004 DATA "Lithium","Li",7
5006 DATA "Beryllium","Be",9
5008 DATA "Boron","B",11
5010 DATA "Carbon","C",12
5012 DATA "Nitrogen","N",14
5014 DATA "Oxygen","O",16
5016 DATA "Fluorine","F",19
```

```
5018 DATA "Neon","Ne",20
5020 DATA "Sodium","Na",23
5022 DATA "Magnesium","Mg",24
5024 DATA "Aluminium","Al",27
5026 DATA "Silicon","Si",28
5028 DATA "Phosphorus","P",31
5030 DATA "Sulphur","S",32
5032 DATA "Chlorine","Cl",35
5034 DATA "Argon","A",40
5036 DATA "Potassium","K",39
5038 DATA "Calcium","Ca",40
5040 DATA "Scandium","Sc",45
5042 DATA "Titanium","Ti",48
5044 DATA "Vandium","V",51
5046 DATA "Chromium","Cr",52
5048 DATA "Manganese","Mn",55
5050 DATA "Iron","Fe",56
5052 DATA "Cobalt","Co",59
5054 DATA "Nickel","Ni",59
5056 DATA "Copper","Cu",64
5058 DATA "Zinc","Zn",65
5060 DATA "Gallium","Ga",70
5062 DATA "Germanium","Ge",73
5064 DATA "Arenic","As",75
5066 DATA "Selenium","Se",79
5068 DATA "Bromine","Br",80
5070 DATA "Krypton","Kr",84
5072 DATA "Rubidium","Rb",85
5074 DATA "Strontium","Sr",88
5076 DATA "Yttrium","Y",89
5078 DATA "Zirconium","Zr",91
5080 DATA "Niobium","Nb",93
5082 DATA "Molybdenum","Mo",96
5084 DATA "Techrtium","Tc",98
5086 DATA "Ruthrnium","Ru",102
5088 DATA "Rhodium","Rh",103
5090 DATA "Palladium","Pd",107
5092 DATA "Silver","Ag",108
5094 DATA "Cadmium","Cd",112
5096 DATA "Indium","In",115
5098 DATA "Tin","Sn",119
5100 DATA "Antimony","Sb",122
5102 DATA "Tellurium","Te",128
5104 DATA "Iodine","I",127
5106 DATA "Xenon","Xe",132
5108 DATA "Caesium","Cs",133
5110 DATA "Barium","Ba",138
5112 DATA "Lanthanum","La",139
5114 DATA "Cerium","Ce",140
5116 DATA "Praseodymium","Pr",14
```

```
1
5118 DATA "Neodymium","Nd",144
512Ø DATA "Promethium","Pm",146
5122 DATA "Samarium","Sm",15Ø
5124 DATA "Europium","Eu",152
5126 DATA "Gadolinium","Gd",157
5128 DATA "Terbium","Tb",159
513Ø DATA "Dysprosium","Dy",162
5132 DATA "Holmium","Ho",165
5134 DATA "Erbium","Er",167
5136 DATA "Thulium","Tm",168
5138 DATA "Ytterbium","Yb",173
514Ø DATA "Lutetium","Lu",175
5142 DATA "Radium","Ra",226
5144 DATA "Tantalum","Ta",181
5146 DATA "Tungsten","W",184
5148 DATA "Rhenium","Re",186
515Ø DATA "Osmium","Os",19Ø
5152 DATA "Iridium","Ir",193
5154 DATA "Platinum","Pt",195
5156 DATA "Gold","Au",197,8Ø
5158 DATA "Mercury","Hg",2Ø1
516Ø DATA "Thallium","Tl",2Ø5
5162 DATA "Lead","Pb",2Ø7
5164 DATA "Bismuth","Bi",2Ø9
5166 DATA "Polonium","Po",21Ø
5168 DATA "AStatine","At",21Ø
517Ø DATA "Radon","Rn",222
5172 DATA "Francium","Fr",223
5174 DATA "Radium","Ra",226
5176 DATA "Actinium","Ac",227
5178 DATA "Thorium","Th",232
518Ø DATA "Protoactinium","Pa",2
31
5182 DATA "Uranium","U",238
5184 DATA "Neptunium","Np",237
5186 DATA "Plutonium","Pl",238
5188 DATA "Americium","Am",243
519Ø DATA "Curium","Cm",245
5192 DATA "Berkelium","Bk",249
5194 DATA "Californium","Cf",249
5196 DATA "Einstinium","E",255
5198 DATA "Fermium","Fm",255
52ØØ DATA "Mendelevium","Mv",256
52Ø2 DATA "Nobelium","No",255
52Ø4 DATA "Lawrencium","Lw",256
```

Grand Prix

Move your car around on a fixed track. Turn right with '8', left with '5' and accelerate with '7'. Do not keep your finger on the steering keys or you will find yourself turning more than once and crashing into a wall. Imagine that you are the driver of the car so that what appears to be up or down on the screen involves a turn to either left or right. (16K Spectrum)



```
 10 GO TO 710
 101 REM *Main loop*
 120 IF INKEY$="5" THEN LET c=a:
 LET a=-b: LET b=c
 130 IF INKEY$="8" THEN LET c=b:
 LET b=-a: LET a=c
 140 IF INKEY$="7" THEN LET k=k-
7: IF k<1 THEN LET k=1
 150 IF INKEY$="6" THEN LET k=k+
7
 160 IF k>49 THEN LET k=50: GO T
O 200
 170 PRINT AT y,x;"(isp)": LET y
=y+a: LET x=x+b
 180 IF SCREEN$ (y,x)<>" " THEN
LET y=y-a: LET x=x-b: LET k=50:
PRINT AT y,x; FLASH 1; PAPER 6;"
*": BEEP 1.5,-14: LET s=s+300
 201 PRINT AT y,x;a$(a+2,b+2): B
EEP .08,0: IF y=1 AND x=1 THEN G
O TO 410
 210 FOR n=1 TO k: NEXT n: LET s
=s+20+k: GO TO 120
 301 REM **Start**
 310 PRINT AT 0,2; PAPER 3;" Pre
ss any key to start "
 320 PAUSE 0: PRINT AT 0,2; PAPE
R 3;"#.....#.....#.....#....#"
 330 FOR q=1 TO 4: PRINT AT 1,4;
 INK 2; PAPER 0; FLASH 1; BRIGHT
 1;" ": BEEP .5,0: BEEP .5,12: N
EXT q
 350 PRINT AT 1,4; PAPER 4;" ":
BEEP .2,24: PAPER 5
 360 GO TO 100
 401 REM **Finish**
 420 PAPER 6: PRINT AT 7,9;" Poi
nts=";s;" "
 430 FOR n=1 TO 30: BEEP .1,(RND
*20+10): NEXT n
 440 IF s<hs THEN LET hs=s
 460 PRINT AT 8,8;" Top Score=";
hs;" ";AT 9,7;" Next Race? (Y/N)
"
 470 IF INKEY$="y" THEN GO TO 65
0
 480 IF INKEY$="n" THEN BEEP 1,1
2: STOP
 490 GO TO 470
 601 REM **Variables**
 610 LET hs=100000: DIM a$(3,3)
 620 LET a$(1)=" A": LET a$(2)="
B C": LET a$(3)=" D"
 625 LET s=0: LET k=50: LET x=2:
 LET y=1: LET a=0: LET b=1: PAPE
R 7: CLS
 630 PRINT "XXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXX(19*isp)XXXXXXXXXX
XXX(isp)XXXXXXXXXXXXXXXX(2*isp)X
X(9*isp)XX(isp)XXXXXXXXXXXXXXXX(
2*isp)XX(2*isp)XXXXX(2*isp)XX(2*
isp)XX(12*isp)XX(isp)XX(2*isp)XX
XXX(2*isp)XX(2*isp)XX(2*isp)XXXX
XXXX(2*isp)XX(isp)XX(6*isp)XX(is
p)XXX(isp)XX(2*isp)X(6*isp)XX(is
p)XX(isp)XXXXXX(2*isp)XX(isp)XXX
(isp)XXX(isp)X(2*isp)XX(2*isp)XX
(isp)XX(9*isp)XX(isp)XXX(isp)XXX
(3*isp)XXX(2*isp)XX(isp)XXXXXXXX
XXXXX(isp)XX(2*isp)XXX(3*isp)XXX
(isp)XXX(isp)XXXXXXXXXXXXX(isp)X
X(2*isp)XXXXXXXXX(isp)XX(2*isp)X
XXX(6*isp)XX(2*isp)X"
 640 PRINT "X(isp)XXXXXXXXXX(isp
)XX(2*isp)XXXX(2*isp)XXX(isp)XX(
2*isp)XX(isp)XX(9*isp)XX(2*isp)X
XXX(isp)XX(3*isp)XX(isp)XXX(isp)
XX(2*isp)XXXXXXXXXX(7*isp)XX(3*is
p)XX(isp)XXX(isp)XX(2*isp)XXXXXX
XXXXXXXXXXXX(isp)XXXX(isp)XXX(is
p)XX(isp)XXXXXXXXXXXXXXXXXXX(6*i
sp)XXX(isp)XX(isp)XX(9*isp)XXX(4
*isp)X(6*isp)XXX(2*isp)X(4*isp)X
XXXXXX(2*isp)X(2*isp)X(2*isp)XXX
XXXXXXX(2*isp)X(4*isp)XXXXXXXX(3
*isp)XX(9*isp)XXX(2*isp)XXXXXXXX
XXXXXXXXXXXXXXXXX(2*isp)XXX(29*i
sp)XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXX"
 650 PRINT AT 1,2; PAPER 5;"C"
 670 GO TO 310
 701 REM **Introduction**
 710 BORDER 4: PAPER 7: CLS : PR
INT AT 5,6; INVERSE 1;" G R A N
D  P R I X "
 720 PRINT AT 14,9;"5/8 = Steeri
ng";AT 15,10;"7  = Throttle";AT
16,10;"6  = Brake"
 810 FOR c=0 TO 31: READ d: POKE
 USR "A"+c,d: NEXT c
```

```
 82Ø PAUSE Ø: CLS : GO TO 61Ø
 9Ø1 DATA 231,195,231,231,231,16
5,129,165
 91Ø DATA 255,248,189,Ø,Ø,189,24
8,255
 92Ø DATA 255,31,189,Ø,Ø,189,31,
255
 93Ø DATA 165,129,165,231,231,23
1,195,231
```

Kami

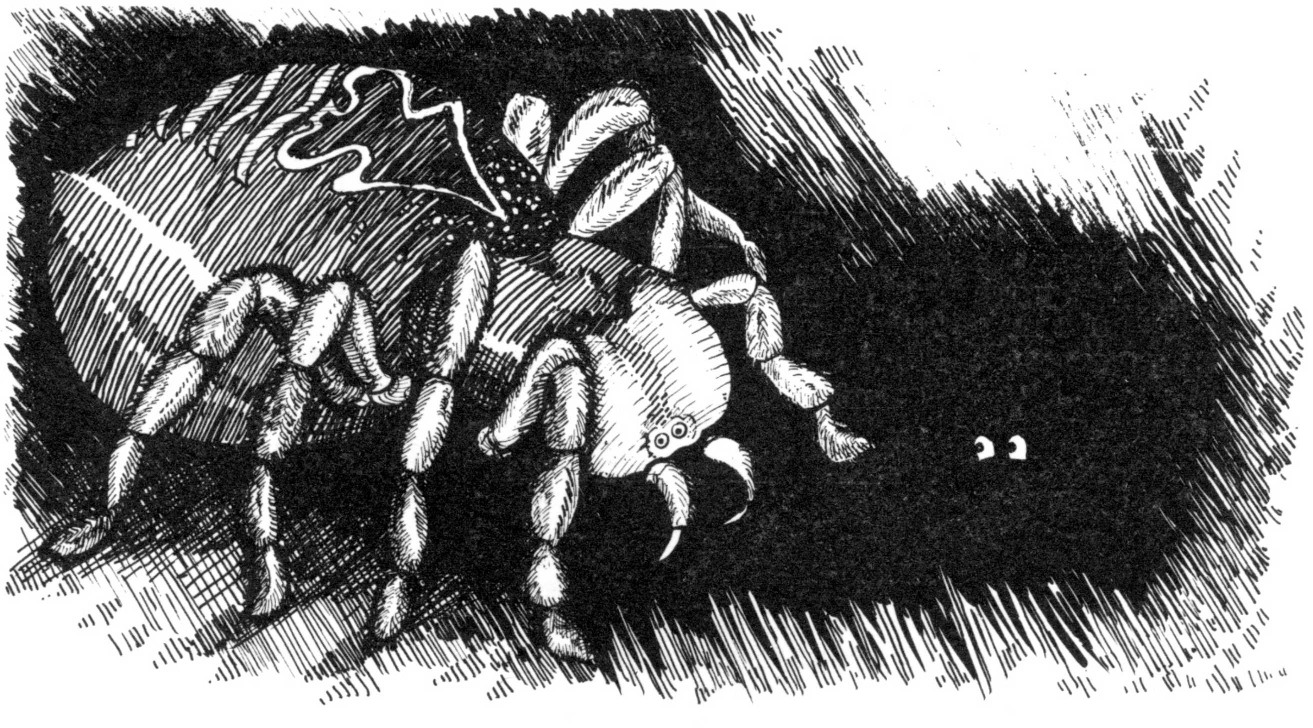
Fly across enemy territory, shooting as many enemy saucers as possible before you are shot down or run out of fuel. Move up with 'q' and down with 'a'. Saucers on the ground can be bombed with key '1' and those in the air shot with a laser, operated by key 'p'. (16K Spectrum)

```
   2 LET hi=Ø: LET j=Ø: GO SUB 4
ØØØ: CLS
   3 LET q=Ø: LET score=Ø: LET c
=1Ø: LET d=Ø: LET e=Ø: LET f=1Ø:
 LET g=29: LET h=Ø: LET b$="AB "
   4 PRINT AT 2Ø,Ø; INK 1;"(64*i
sp)"
   5 LET a=1: LET b=3Ø
  2Ø LET a$="   E  FFFFF AB GGGG
 E GG E  G  "
  3Ø FOR x=1 TO 3Ø
  5Ø PRINT AT 19,Ø; PAPER 8; INK
 2;a$(a TO b);a$( TO a)
  55 IF e=19 AND PEEK 2Ø587=7 TH
EN BEEP .Ø5,5Ø: BEEP .Ø5,-1Ø: BE
EP .Ø5,-2Ø: BEEP .Ø5,-3Ø: BEEP .
Ø5,5Ø:: LET a$(13 TO 14)=" K": L
ET score=score+5Ø
  56 IF e=19 THEN LET e=Ø
  6Ø LET a=a+1
  65 PRINT AT c,1Ø; INK 2;"I";AT
 c,1Ø;"J"
  7Ø PRINT AT c+1,1Ø;"   ";AT c-
1,1Ø;"   ";AT c,11; INK 1;"CD"
  75 PRINT AT c,1Ø; INK 2;"H"
  76 IF IN 57342=254 THEN PLOT 1
Ø6,17Ø-(c*8): DRAW 14Ø,Ø: INK 7:
 PLOT 1Ø6,17Ø-(c*8): DRAW 14Ø,Ø:
 BEEP .Ø5,4Ø: IF c=f AND b$="AB
" AND g>11 THEN LET score=score+
1Ø: LET b$="K  "
  77 INK Ø
  8Ø LET c=c+(IN 65Ø22=254 AND c
<15)-(IN 6451Ø=254 AND c>1)
  9Ø IF IN 4915Ø=253 AND e=Ø THE
N LET d=1: LET e=c+2
 1ØØ LET e=e+((1 AND e<19) AND d
=1)
 11Ø IF d=1 THEN PRINT AT e-1,12
;" ";AT e,12;"(ig7)": IF e=19 TH
EN LET d=Ø
 12Ø PRINT AT f,g;b$
 13Ø LET g=(g-.5 AND g>Ø): IF g=
Ø THEN PRINT AT f,g;"   "
 14Ø IF l>1 AND x=15 THEN PLOT 1
52,24: DRAW -13Ø,13Ø: INK 7: PLO
T 152,24: DRAW -13Ø,13Ø: BEEP .Ø
5,5Ø: IF c=1Ø OR c=11 OR c=12 TH
EN GO TO 3ØØØ
 15Ø INK Ø
 16Ø PRINT AT Ø,7;"   ";AT Ø,Ø;"F
UEL = ";2Ø-q;AT Ø,15;"SCORE = ";
score
 17Ø IF c=f AND INT (g)=12 THEN
GO TO 3ØØØ
 18Ø IF l>2 AND x=1Ø THEN PLOT 1
25,24: DRAW -11Ø,11Ø: INK 7: PLO
T 125,24: DRAW -11Ø,11Ø: BEEP .Ø
5,5Ø: IF c=15 OR c=14 THEN GO TO
 3ØØØ
 19Ø INK Ø
1ØØØ NEXT x
1ØØ2 LET h=h+1
1ØØ5 IF h=2 THEN LET f=INT (RND*
14+2): LET g=29: LET h=Ø: LET b$
="AB "
1Ø1Ø PLOT 2Ø7,24: DRAW -13Ø,13Ø:
 INK 7: PLOT 2Ø7,24: DRAW -13Ø,1
3Ø: BEEP .Ø5,5Ø: IF c=5 OR c=4 O
R c=3 THEN GO TO 3ØØØ
1Ø2Ø INK Ø
11ØØ LET q=q+1
111Ø IF q=2Ø THEN GO TO 3ØØØ
2ØØØ GO TO 5
3ØØØ INK Ø: PRINT AT c,9;"  K  "
;AT c-1,9;"     ";AT c+1,9;"
 ": FOR x=3Ø TO 1 STEP -1: BEEP
1/x,x: NEXT x
3Ø1Ø IF score>hi OR score=Ø AND
hi=Ø THEN LET hi=score: CLS : PR
INT AT 8,8;"CØNGRATULATIONS": PR
INT AT 1Ø,3;"YOU HAVE A NEW HIGH
 SCORE": INPUT "PLEASE ""ENTER""
 YOUR NAME";n$
3Ø4Ø CLS : PRINT AT 1Ø,Ø;"HIGH S
CORE ";n$;" = ";hi
3Ø5Ø PRINT AT 12,Ø;"SCORE = ";sc
ore
3Ø6Ø INPUT "Do you want another
game ? (y/n)";m$
3Ø7Ø IF m$="y" THEN CLS : GO TO
3
3Ø8Ø STOP
4ØØØ PRINT AT Ø,14;"KAMI"
4Ø1Ø INPUT AT 1Ø,Ø;"SELECT LEVEL
 OF PLAY (1 TO 3)";l
4Ø2Ø IF l=1 OR l=2 OR l=3 THEN G
O TO 5ØØØ
4Ø3Ø GO TO 4Ø1Ø
5ØØØ FOR x=USR "A" TO USR "K"+7
```

```
5010 READ r: POKE x,r: NEXT x
5020 RETURN
5030 DATA 7,31,63,31,7,5,9,17,19
2,240,248,240,192,64,32,16,224,1
12,120,124,255,255,127,0,0,0,48,
72,254,255,254,0,128,64,36,20,12
,62,62,42
5040 DATA 170,255,255,170,255,25
5,85,85,16,16,56,56,56,124,56,84
,0,0,176,12,71,23,4,80,0,128,16,
164,11,47,144,64,0,64,168,68,147
,67,148,104,40,74,17,92,29,44,20
,130
```

Tarantula

Your task is to carry all the treasure chests through the spiders' lair. You must be watchful because the spiders will soon start spinning their webs to catch you. Also the direction of movement of the conveyor belt on which you stand changes constantly, making quick evasion from the spiders difficult. (16K Spectrum)



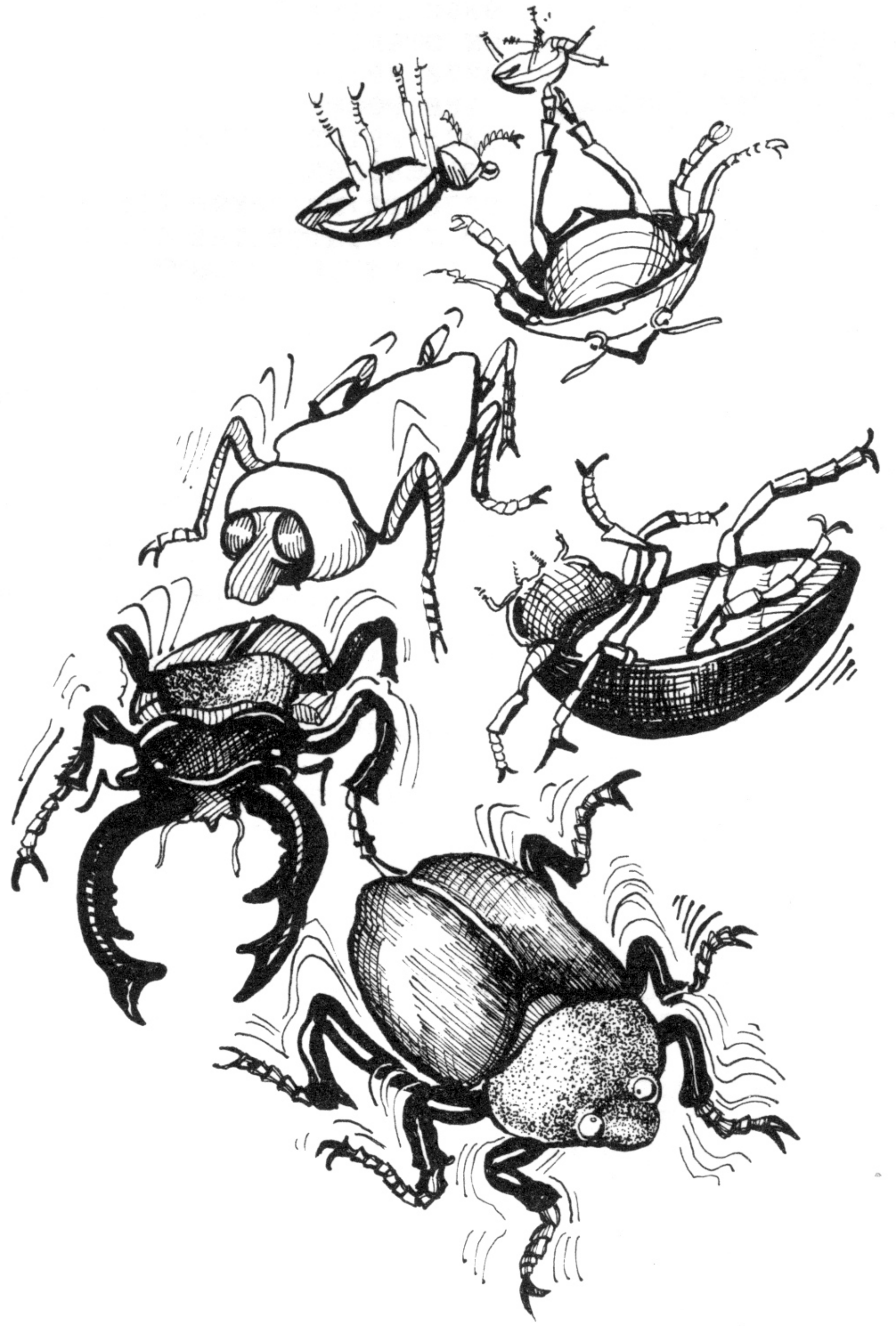
```
   9 REM USR GRAPHICS SECTION
  1Ø RESTORE
  2Ø FOR z=144 TO 154: FOR x=Ø T
O 7: READ f: POKE USR CHR$ z+x,f
: NEXT x: NEXT z
  3Ø DATA 24,24,6Ø,9Ø,24,36,36,6
6
  4Ø DATA 16,56,84,124,17Ø,17Ø,1
7Ø,4Ø
  5Ø DATA 16,16,16,16,16,16,16,1
6
  6Ø DATA 73,73,73,73,73,73,73,7
3
  7Ø DATA 128,64,96,24,3,Ø,Ø,Ø
  8Ø DATA Ø,Ø,Ø,Ø,Ø,192,48,15
  9Ø DATA Ø,Ø,Ø,Ø,Ø,3,12,24Ø
 1ØØ DATA 1,2,12,48,192,Ø,Ø,Ø
 11Ø DATA 17,18,2Ø,24,16,16,16,1
6
 12Ø DATA 145,82,52,24,16,16,16,
16
 13Ø DATA 144,8Ø,48,16,16,16,16,
16
 99Ø REM INITIALISATION
1ØØØ BORDER 3: INK Ø: PAPER 7: C
LS
1Ø1Ø PRINT AT 1Ø,Ø;" DO YOU REQU
IRE INSTRUCTIONS?"
1Ø2Ø INPUT i$
1Ø3Ø IF i$="y" THEN GO SUB 9ØØØ
1Ø4Ø IF i$="yes" THEN GO SUB 9ØØ
Ø
1Ø44 IF i$="Y" THEN GO SUB 9ØØØ
1Ø45 IF i$="YES" THEN GO SUB 9ØØ
Ø
1Ø5Ø LET cnv=134: LET bb=Ø: LET
bc=1: LET bcc=Ø: LET w=Ø: LET a=
18: LET b=1: LET s1=12: LET s4=1
2: LET s2=16: LET s3=16: LET v=9
: LET sc=Ø: LET tm=Ø: LET tc=1:
LET r1=1: LET r4=-1: LET r2=-1:
LET r3=1: LET li=3
1Ø6Ø CLS
1Ø7Ø PRINT AT Ø,Ø; INK 2;"      B
  TARANTULA      B"
1Ø8Ø PRINT AT 2,Ø; INK 5;"Lives
left- ",li,"score- ",sc
1Ø9Ø PRINT AT v-2,Ø; INK 1;"(31*
isp)"
11ØØ PRINT AT 19,Ø; INK 1;"(ig6:
3Ø*isp:ig6)"
111Ø PRINT AT a,b; INK Ø;"A"
112Ø FOR x=18 TO 14 STEP -1: PRI
NT AT x,Ø; INK 2;"(ig6)": NEXT x
113Ø FOR x=8 TO s1-1: PRINT AT x
,8; INK Ø;"C": NEXT x: PRINT AT
s1,8; INK 2;"B"
114Ø FOR x=8 TO s2-1: PRINT AT x
,13; INK Ø;"C": NEXT x: PRINT AT
 s2,13; INK 2;"B"
115Ø FOR x=8 TO s3-1: PRINT AT x
,18; INK Ø;"C": NEXT x: PRINT AT
 s3,18; INK 2;"B"
116Ø FOR x=8 TO s4-1: PRINT AT x
,23; INK Ø;"C": NEXT x: PRINT AT
 s4,23; INK 2;"B"
117Ø FOR x=1 TO 26: BEEP .Ø8,x:
NEXT x
1171 DEF FN o()=INT ((PEEK 23672
+256*PEEK 23673+65536*PEEK 23674
)/5Ø)
1172 DEF FN p(x,y)=(x+y+ABS (x-y
))/2
1173 DEF FN n()=FN p(FN o(),FN o
())
118Ø FOR h=23674 TO 23672 STEP -
1: POKE h,Ø: NEXT h
199Ø REM MOVEMENT LOOP
2ØØØ PRINT AT a,b; INK Ø;"A"
2Ø1Ø LET bb=bb+(INKEY$="8")-(INK
EY$="5")
2Ø15 IF bb=-3 THEN LET bb=-2
2Ø16 IF bb=3 THEN LET bb=2
2Ø17 LET bcc=bcc+1: IF bcc>1Ø TH
EN LET bcc=Ø: LET bc=r1
2Ø22 PRINT AT 19,Ø;CHR$ cnv
2Ø24 PRINT AT 19,31;CHR$ cnv
2Ø26 IF cnv=134 THEN GO TO 2Ø28
2Ø27 LET cnv=134: GO TO 2Ø3Ø
2Ø28 LET cnv=137
2Ø3Ø PRINT AT 2,Ø; INK 5;"Lives
left- ",li,"Score- ",sc
2Ø4Ø PRINT AT s1,8; INK Ø;"C": I
F s1=v OR s1<v THEN LET r1=1
2Ø41 IF s1=18 THEN LET r1=-1
2Ø42 IF r1=-1 THEN PRINT AT s1,8
;" "
2Ø43 LET s1=s1+r1: PRINT AT s1,8
; INK 2;"B"
2Ø5Ø PRINT AT s2,13; INK Ø;"C":
```

```
IF s2=v OR s2<v THEN LET r2=1
2051 IF s2=18 THEN LET r2=-1
2052 IF r2=-1 THEN PRINT AT s2,1
3;" "
2053 LET s2=s2+r2: PRINT AT s2,1
3; INK 2;"B"
2060 PRINT AT s3,18; INK 0;"C":
IF s3=v OR s3<v THEN LET r3=1
2061 IF s3=18 THEN LET r3=-1
2062 IF r3=-1 THEN PRINT AT s3,1
8;" "
2063 LET s3=s3+r3: PRINT AT s3,1
8; INK 2;"B"
2070 PRINT AT s4,23; INK 0;"C":
IF s4=v OR s4<v THEN LET r4=1
2071 IF s4=18 THEN LET r4=-1
2072 IF r4=-1 THEN PRINT AT s4,2
3;" "
2073 LET s4=s4+r4: PRINT AT s4,2
3; INK 2;"B"
2081 LET w=w+1
2082 IF w=50 THEN GO TO 2084
2083 GO TO 2090
2084 PRINT AT v-1,8; INK 0;"IEFG
HJEFGHJEFGHK"
2085 LET w=0: LET v=v+1
2090 IF b=8 AND s1=18 THEN GO TO
 6000
2100 IF b=13 AND s2=18 THEN GO T
O 6100
2110 IF b=18 AND s3=18 THEN GO T
O 6200
2115 IF v=19 THEN GO TO 8000
2120 IF b=23 AND s4=18 THEN GO T
O 6300
2121 PRINT AT a,b;" "
2131 LET b=b+bb+bc
2132 IF b<1 THEN LET b=1
2133 IF b>30 THEN LET b=30
2134 IF b=30 AND tc=1 THEN GO TO
 2240
2220 IF b=1 THEN LET tc=1
2230 GO TO 2000
2240 LET tc=0: LET tm=tm+1: LET
sc=sc+10: PRINT AT 19-tm,31; INK
 2;"(G6)";AT 13+tm,0;" ": IF tm=
5 THEN GO TO 6400
2250 GO TO 2000
2260 REM END OF MOVEMENT LOOP
5990 REM MAN CAUGHT ROUTINE
6000 PRINT AT a,b; OVER 1; INK 6
;"D"
6010 LET li=li-1: IF li=0 THEN G
O TO 8000
6020 LET TC=1
6030 FOR x=1 TO 15: BEEP .006,x:
 NEXT x
6040 LET a=18: LET b=1: PRINT AT
 s1,8; INK 2;"B"
6050 FOR x=1 TO 15: NEXT x: PRIN
T AT a,b; INK 0;"A"
6060 FOR x=1 TO 10: NEXT x
6070 GO TO 2000
6100 PRINT AT a,b; OVER 1; INK 6
;"D"
6110 LET li=li-1: IF li=0 THEN G
O TO 8000
6120 IF tc=1 THEN LET tc=0
6130 FOR x=1 TO 15: BEEP .006,x:
 NEXT x
6140 LET a=18: LET b=1: PRINT AT
 s2,13; INK 2;"B"
6150 FOR x=1 TO 15: NEXT x: PRIN
T AT a,b; INK 0;"A"
6160 FOR x=1 TO 10: NEXT x
6170 GO TO 2000
6200 PRINT AT a,b; OVER 1; INK 6
;"D"
6210 LET li=li-1: IF li=0 THEN G
O TO 8000
6220 IF tc=1 THEN LET tc=0
6230 FOR x=1 TO 15: BEEP .006,x:
 NEXT x
6240 LET a=18: LET b=1: PRINT AT
 s3,18; INK 2;"B"
6250 FOR x=1 TO 15: NEXT x: PRIN
T AT a,b; INK 0;"A"
6260 FOR x=1 TO 10: NEXT x
6270 GO TO 2000
6300 PRINT AT a,b; OVER 1; INK 6
;"D"
6310 LET li=li-1: IF li=0 THEN G
O TO 8000
6320 IF tc=1 THEN LET tc=0
6330 FOR x=1 TO 15: BEEP .006,x:
 NEXT x
6340 LET a=18: LET b=1: PRINT AT
 s4,23; INK 2;"B"
6350 FOR x=1 TO 15: NEXT x: PRIN
T AT a,b; INK 0;"A"
```

```
6360 FOR x=1 TO 10: NEXT x
6370 GO TO 2000
6390 REM TREASURE AT OTHER SIDE
ROUTINE
6400 LET tm=0: LET tc=0
6420 FOR x=18 TO 14 STEP -1: PRI
NT AT x,0; INK 2;"(g6)";AT x,31;
" ": BEEP .009,x: NEXT x
6430 GO TO 2000
7990 REM SORE BOARD
8000 FOR x=1 TO 5: NEXT x
8001 FOR x=1 TO 15: BEEP .006,x:
 NEXT x
8010 CLS
8020 PRINT AT 10,0;" YOU SCORED-
";sc;" AND YOU TOOK ";FN n();"
  SECONDS
  do you want to try again?"
8025 FOR x=-12 TO 40 STEP 6: BEE
P .08,x: NEXT x
8030 INPUT i$
8040 IF i$="y" THEN GO TO 1050
8050 IF i$="yes" THEN GO TO 1050
8060 CLS
8070 FOR x=40 TO -40 STEP -5: BE
EP .06,x: NEXT x
8080 STOP
8990 REM INSTRUCTIONS
9000 CLS
9010 PRINT AT 0,8;"B  TARATULA
B"
9020 PRINT
9030 PRINT " YOUR TASK IS TO CAR
RY ALL YOUR"
9040 PRINT " TREASURE CHESTS THR
OUGH THE"
9050 PRINT  " SPIDERS LAIR. BUT
BEWARE!!"
9060 PRINT " THE SPIDERS WILL SO
ON START"
9070 PRINT " SPINING WEBS ACROSS
 THE ROOF"
9075 PRINT " MAKING THER TASK OF
 CATCHING"
9076 PRINT " YOU EASIER"
9077 PRINT " THE DIRECTION OF TH
E CONVEYOR   CONVEYOR BELT ON WH
ICH YOU      STAND IS CONSTANTLY
 CHANGING"
9080 PRINT
9090 PRINT " USE KEYS 5 AND 8 TO
 MOVE"
9100 PRINT
9110 PRINT " PRESS ANY KEY TO ST
ART"
9115 PAUSE 50
9120 LET I$=INKEY$: IF I$="" THE
N GO TO 9120
9130 RETURN
```

Beetle Run

You are a beetle scurrying around the screen of your Spectrum. Your aim is to move as many times as possible before you die. You must avoid the blocks which keep appearing around you. If you are surrounded by blocks, or walk into one, the Death March will play and your score will be displayed. Move using the usual cursor keys. Use graphic 'A' in lines 160 and 3000, and graphic 'B' in lines 105, 106, 108 and 100. (16K Spectrum)

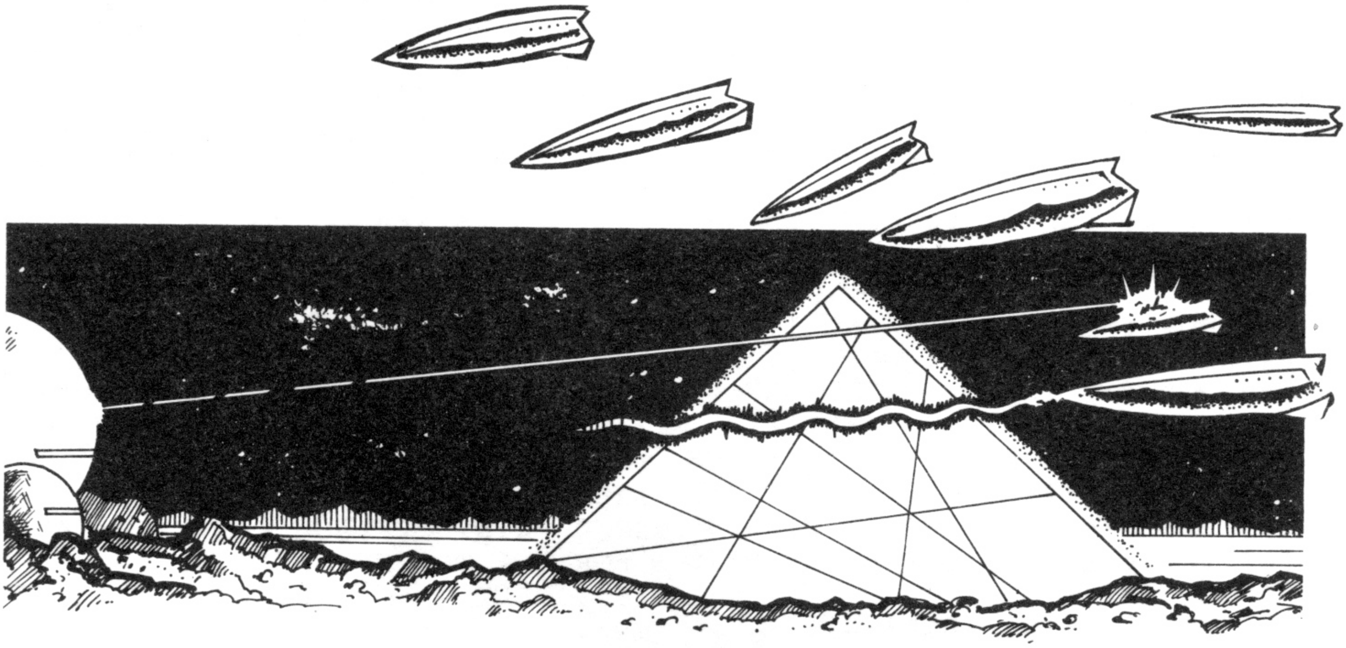


```
   4 DATA Ø,24,165,126,6Ø,6Ø,126
,153
   5 FOR t=Ø TO 7
   6 READ x
   7 POKE USR "A"+t,x
   8 NEXT t
  1Ø DATA 255,129,189,165,165,18
9,129,255
  2Ø FOR t=Ø TO 7
  3Ø READ x
  4Ø POKE USR "B"+t,x
  5Ø NEXT t
  58 BORDER Ø
  59 LET hs=Ø
  6Ø CLS
  7Ø LET x=1Ø
  75 LET y=15
  8Ø LET s=Ø: PRINT AT 21,Ø;"Sco
re=";s
  9Ø PRINT AT 21,12;"Hi-score=";
hs
 1ØØ PRINT INK Ø; PAPER 2;AT 1,1
;"BBBBBBBBBBBBBBBBBBBBBBBBBBBBBB
B"
 1Ø5 PRINT INK Ø; PAPER 2;AT 2Ø,
1;"BBBBBBBBBBBBBBBBBBBBBBBBBBBBB
B"
 1Ø6 FOR f=1 TO 2Ø: PRINT INK Ø;
 PAPER 2;AT f,1;"B": NEXT f
 1Ø8 FOR f=1 TO 2Ø: PRINT INK Ø;
 PAPER 2;AT f,3Ø;"B": NEXT f
 16Ø PRINT INK Ø;AT x,y;"A": FOR
 f=1 TO 5: BEEP .ØØ5,f: NEXT f
 165 LET s=s+1: PRINT AT 21,6;s
 167 IF hs<s THEN LET hs=s: PRIN
T AT 21,21;hs
 17Ø LET a=y+INT (RND*-3)+2
 18Ø LET b=x+INT (RND*-3)+2
 185 IF b=x AND a=y THEN GO TO 1
7Ø
 19Ø PRINT INK Ø; PAPER 2;AT b,a
;"B": BEEP .2,-2Ø: BEEP .3,-21
 191 IF SCREEN$ (x-1,y)<>" " THE
N GO TO 193
 192 GO TO 2ØØ
 193 IF SCREEN$ (x+1,y)<>" " THE
N GO TO 196
 195 GO TO 2ØØ
 196 IF SCREEN$ (x,y+1)<>" " THE
N GO TO 198
 197 GO TO 2ØØ
 198 IF SCREEN$ (x,y-1)<>" " THE
N GO TO 3ØØØ
 2ØØ LET d=1
 21Ø IF INKEY$="5" AND y>2 THEN
GO TO 1ØØØ
 22Ø IF INKEY$="8" AND y<29 THEN
 GO TO 11ØØ
 23Ø IF INKEY$="7" AND x>2 THEN
GO TO 12ØØ
 24Ø IF INKEY$="6" AND x<19 THEN
 GO TO 13ØØ
 25Ø LET d=d+1: IF d=1Ø THEN GO
TO 17Ø
 26Ø GO TO 21Ø
1ØØØ PRINT AT x,y;" ": LET y=y-1
: IF SCREEN$ (x,y)<>" " THEN GO
TO 2ØØØ
1ØØ1 GO TO 16Ø
11ØØ PRINT AT x,y;" ": LET y=y+1
: IF SCREEN$ (x,y)<>" " THEN GO
TO 2ØØØ
11Ø1 GO TO 16Ø
12ØØ PRINT AT x,y;" ": LET x=x-1
: IF SCREEN$ (x,y)<>" " THEN GO
TO 2ØØØ
12Ø1 GO TO 16Ø
13ØØ PRINT AT x,y;" ": LET x=x+1
: IF SCREEN$ (x,y)<>" " THEN GO
TO 2ØØØ
13Ø1 GO TO 16Ø
3ØØØ PRINT ; FLASH 1;AT x,y;"A":
 FOR f=1 TO 1ØØ: NEXT f
3ØØ1 BEEP 1,-12: BEEP .6,-12: BE
EP .3,-12: BEEP .9,-12: BEEP .6,
-9: BEEP .3,-1Ø: BEEP .57,-1Ø: B
EEP .3,-12: BEEP .6,-12
3ØØ2 BEEP .4,-13: BEEP 1,-12
3ØØ4 PRINT INK Ø; PAPER 2;AT x,y
;"B"
3ØØ5 IF s>hs THEN LET hs=s
3Ø1Ø PRINT FLASH 1;AT Ø,1Ø;"Anot
her go?"
3Ø15 IF INKEY$<>"" THEN GO TO 6Ø

3Ø2Ø GO TO 3Ø15
```

Rebound

Shoot the missiles as they try to escape their planet's atmosphere on the right of the screen. If five escape into hyperspace they will destroy your home planet and the game will end. Your cosmic cannon is situated on the left of the screen. It moves left with '5', right with '8' and fires with 'B'. If shots travel upwards, hit the top of the play area and ricochet down on the right. Skill is needed to aim them correctly. (16K Spectrum)



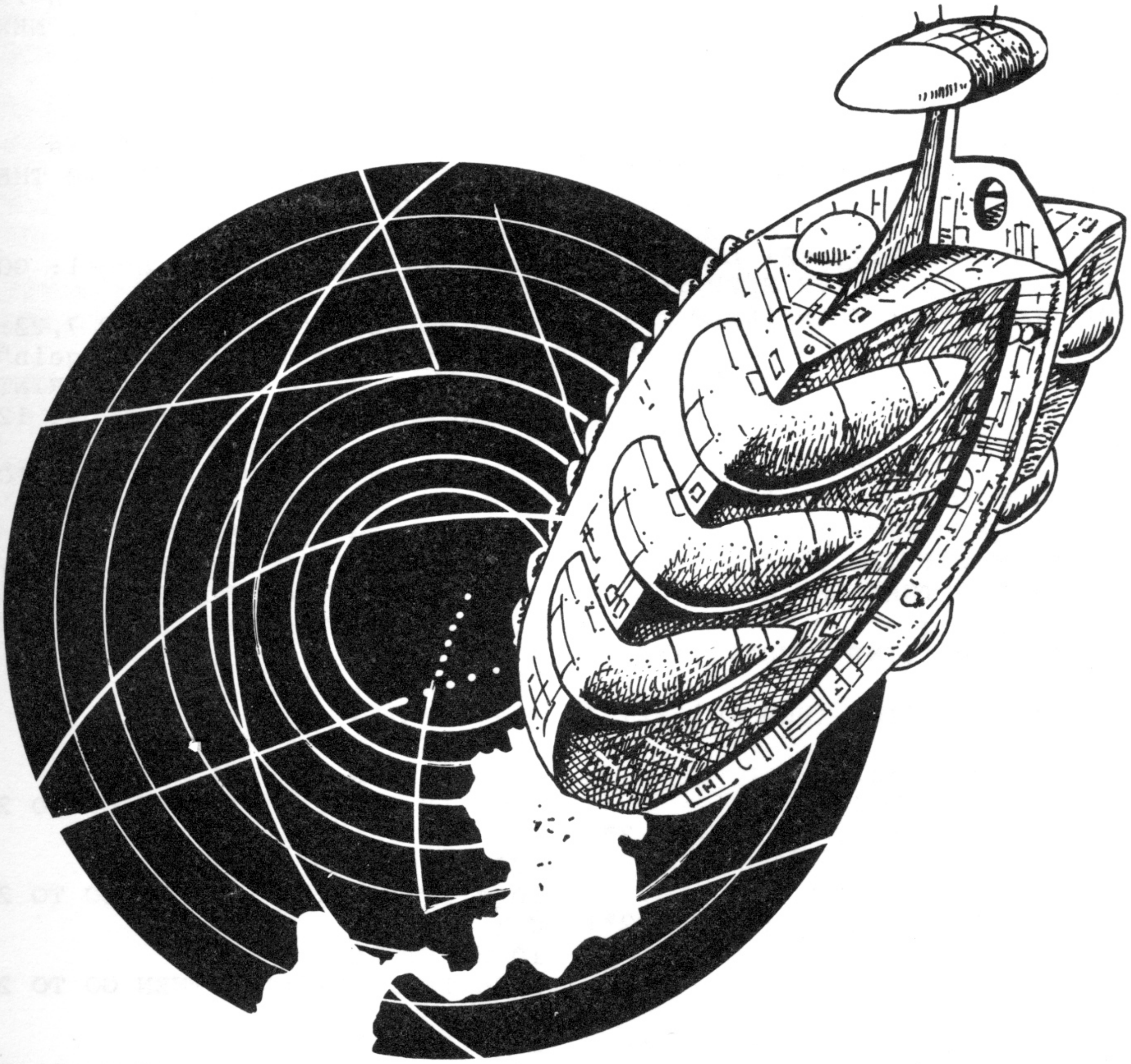
```
  10 PRINT AT 10,12;"REBOUND": B
EEP .5,20: BEEP .4,15
  15 RANDOMIZE
  20 PRINT AT 10,8;"INSTRUCTIONS
? (y/n)": BEEP .1,20: BEEP .1,10
: PAUSE 0
  30 IF INKEY$="y" THEN GO SUB 8
500
  50 LET hs=0
  60 RESTORE 9000: GO SUB 9000
  70 PAPER 0: BORDER 5: INK 5: C
LS
  80 FOR f=0 TO 31: PRINT AT 0,f
;"(isp)": NEXT f
  90 FOR f=0 TO 31 STEP 31: FOR
g=1 TO 20: PRINT AT g,f;"(isp)":
 NEXT g: NEXT f
 100 LET k=0
 110 FOR f=1 TO 9: FOR g=1 TO 9-
k
 120 PRINT AT f,g;"(isp)"
 130 NEXT g
 140 LET k=k+1
 150 NEXT f
 160 LET k=0
 170 FOR f=1 TO 9: FOR g=22+k TO
 30
 180 PRINT AT f,g;"(isp)"
 190 NEXT g
 200 LET k=k+1
 210 NEXT f
 220 PRINT AT 12,15;"(2*isp)";AT
 13,14;"(4*isp)";AT 14,13;"(6*is
p)";AT 15,12;"(8*isp)"
 230 FOR f=16 TO 20: FOR g=11 TO
 20: PRINT AT f,g;"(isp)": NEXT
g: NEXT f
 240 LET k=10: LET p=21
 250 FOR f=1 TO 10
 260 PRINT AT f,k;"(iga)";AT f,p
;"(igb)"
 270 LET k=k-1: LET p=p+1
 280 NEXT f
 290 LET k=14: LET p=17
 300 FOR f=12 TO 15
 310 PRINT AT f,k;"A";AT f,p;"B"
 320 LET k=k-1: LET p=p+1
 330 NEXT f
 340 LET s=0: LET miss=0: LET c=
1
 350 IF s>hs THEN LET hs=s
 360 PAPER 5: INK 0: PRINT AT 0,
0;"SCORE ";s,"HI SCORE ";hs;AT 1
7,12;"ESCAPED:";AT 19,15;miss
 370 LET h=INT (21+9*RND): LET v
=21
 380 IF c<20 THEN LET a$="E": LE
T co=2
 390 IF c>=20 THEN LET a$="D": L
ET co=6
 400 LET g=5
 410 PRINT ; PAPER 0;AT 21,1;"
      "
 420 PAPER 0: INK 7: PRINT AT 21
,g;" C "
 430 PRINT INK co;AT v,h;a$
 440 IF INKEY$="b" THEN GO SUB 7
900: IF g=30-h THEN GO TO 7100
 450 LET g=g+(INKEY$="8" AND g<9
)-(INKEY$="5" AND g>0)
 460 LET vy=INT (RND*60-c)+1
 470 IF vy<2 THEN PRINT AT v,h;"
 ": LET v=v-1
 480 IF v=12 THEN GO TO 7500
 500 IF RND<.15 AND h<30 THEN PR
INT AT v,h;" ": LET h=h+1: GO TO
 410
 510 IF RND<.3 AND h>21 THEN PRI
NT AT v,h;" ": LET h=h-1
 520 GO TO 410
7100 FOR q=1 TO 3: PRINT AT v,h;
 FLASH 1; BRIGHT 1; INK 2;"*": B
EEP .001,50: BEEP .001,40: BEEP
.001,20: BEEP .002,1: NEXT q
7110 PRINT AT v,h;" "
7115 LET s=s+5+c*3: LET c=c+1
7120 GO TO 350
7500 PRINT FLASH 1; BRIGHT 1;AT
v,h;"*": BEEP .05,-2: BEEP .05,-
12: BEEP .02,-40: PRINT AT v,h;"
 ": LET miss=miss+1:
7505 IF miss=5 THEN GO TO 7600
7510 GO TO 350
7600 CLS : PRINT AT 10,13;"SORRY
!";AT 12,10;"YOU LET TOO";AT 14,
10;"MANY ESCAPE": PAUSE 50: PRIN
T AT 5,1;"You scored ";s: FOR f=
30 TO -30: BEEP .0025,f: NEXT f:
 PRINT AT 20,3;"Press a key for
another go"
```

```
7610 PAUSE 0
7620 GO TO 60
7900 BEEP .01,1: BEEP .01,15: BE
EP .01,35
8000 BEEP .01,1: BEEP .01,15: BE
EP .01,35
8010 PLOT g*8+12,9: DRAW 0,75+g*
8: BEEP .01,30: PLOT OVER 1;g*8+
12,9: DRAW OVER 1;0,75+g*8: BEEP
 .015,35
8020 PLOT g*8+12,9+(75+g*8): DRA
W 232-g*16,0: PLOT OVER 1;g*8+12
,9+(75+g*8): DRAW OVER 1;232-g*1
6,0
8030 PLOT (g*8+12)+(232-g*16),9+
(75+g*8): DRAW 0,-(75+g*8): BEEP
 .0075,20: PLOT OVER 1;(g*8+12)+
(232-g*16),9+(75+g*8): DRAW OVER
 1;0,-(75+g*8)
8040 RETURN
8500 CLS : PRINT TAB 8;"INSTRUCT
IONS"'''"Shoot the aliens as they
 try to escape"'''"Move your cosm
ic cannon with the ~5~ and ~8~ k
eys, and press ~b~to fire"'''"The
y become progressively harderto
hit - but score more points  as
they do"
8510 PRINT ''"The game ends if y
ou let five   escape (they disap
pear into     hyperspace at a ce
rtain         altitude)"''''"pres
s a key to play"
8520 PAUSE 0
8530 CLS : RETURN
8998 RETURN
9000 FOR f=144 TO 148
9010 FOR n=0 TO 7: READ z
9020 POKE USR CHR$ f+n,z: NEXT n
: NEXT f
9030 DATA 1,3,7,15,31,63,127,255
9031 DATA 128,192,224,240,248,25
2,254,255
9032 DATA 24,24,60,60,60,126,126
,126
9033 DATA 60,126,219,219,126,60,
66,129
9034 DATA 129,102,126,60,60,126,
102,129
9040 RETURN
```

Radar Grid

Deep in space your radar screen detects an alien attack. To destroy an alien you must pinpoint its position on the grid by pressing the letter and then the number of the grid square in which it is situated. If you miss 10 aliens your ship is destroyed and the game ends.

The length of time for which each alien remains on the screen is governed by line 240. Change the 10 to a smaller number for a faster moving game. For the 48K Spectrum.

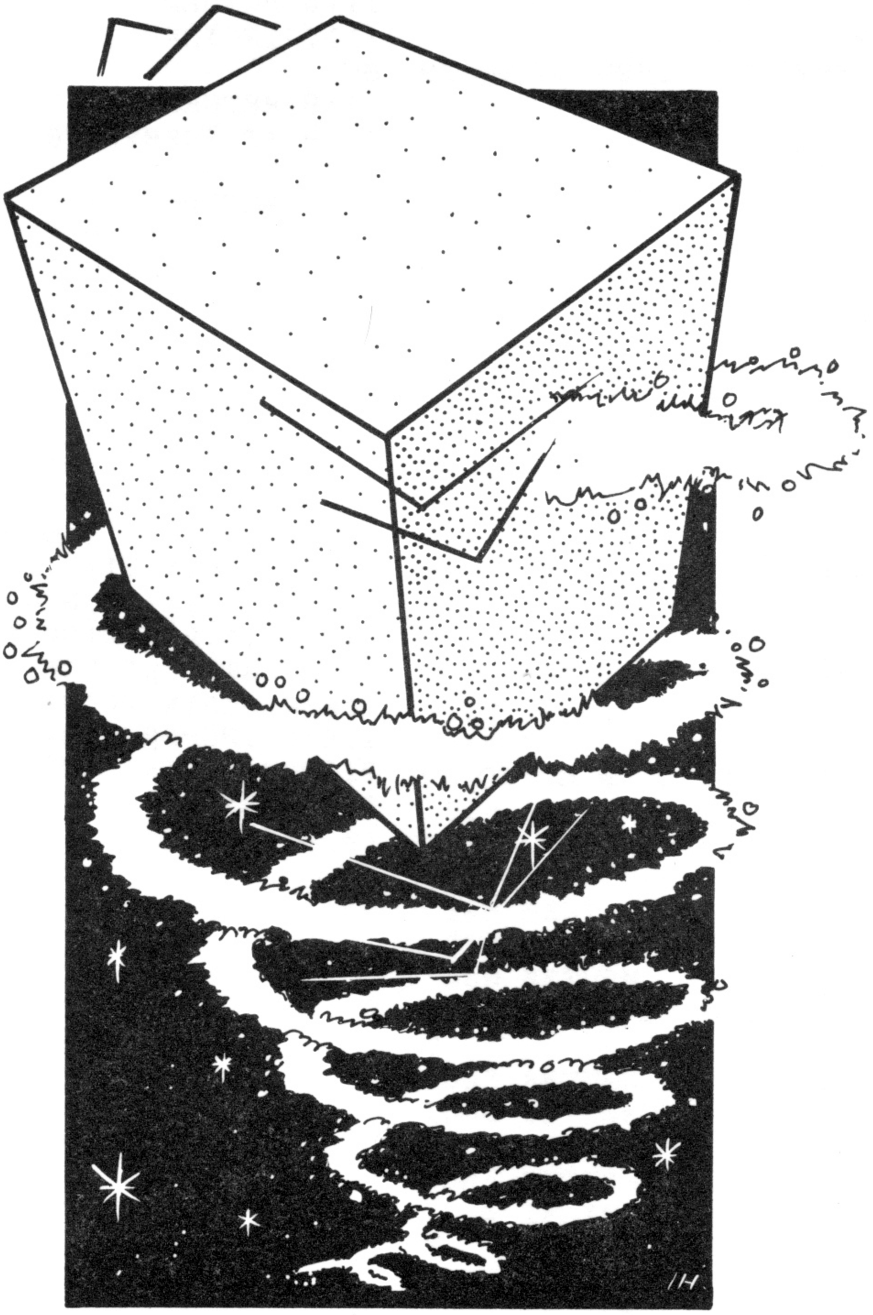


```
  10 GO SUB 1200
  20 LET q=2
  30 BORDER 1: PAPER 1: INK 7: C
LS
  40 PRINT AT 1,15;"A"
  50 BEEP .2,7: BEEP 1.4,5
  60 PRINT '"Deep in space your
radar screen detects an alien at
tack."''"To destroy an alien you
 must pinpoint its position on t
he grid  by pressing FIRST the l
etter    THEN the number."''"You
 must do this before the nextali
en appears."''"If you miss 10 al
iens your ship is destroyed and
the game is    over."''"Press an
y key to play."
  70 PRINT AT 20,15;"B"
  75 BEEP .2,12: BEEP 1.4,10
  80 PAUSE 0
  85 CLS
  90 LET l=1: LET s=0: LET t=0
  95 FOR a=12 TO 172 STEP 16
 100 PLOT 12,a: DRAW 160,0
 110 NEXT a
 120 FOR b=12 TO 172 STEP 16
 130 PLOT b,12: DRAW 0,160
 140 NEXT b
 150 PRINT " "'"9"'" "'"8"'" "'"
7"'" "'"6"'" "'"5"'" "'"4"'" "'"
3"'" "'"2"'" "'"1"'" "'"0"'" "'"
  a b c d e f g h i j"
 160 IF q=8 THEN LET q=2
 180 BORDER q
 210 LET c=(((INT (RND*10))+0.5)
*2)
 220 LET d=(((INT (RND*10))+1)*2
)
 230 LET f=RND*12
 240 FOR x=0 TO 10
 250 PRINT AT c,d;"A": BEEP .2*1
,f
 255 GO SUB 1000+d
 260 PRINT AT c,d;"B": BEEP .2*1
,f-2
 280 NEXT x
 282 LET t=t+1
 283 PRINT AT 5,23;"Misses ";t
 284 IF t=10 THEN GO TO 410
 285 GO TO 200
 300 FOR y=0 TO 10
 310 PRINT AT c,d;"A": BEEP .2*1
,f
 320 GO SUB 1100+c
 330 PRINT AT c,d;"B": BEEP .2*1
,f-2
 350 NEXT y
 352 LET t=t+1
 354 PRINT AT 5,23;"Misses ";t
 356 IF t=10 THEN GO TO 410
 360 GO TO 200
 370 PRINT AT c,d;"P": FOR n=12
TO -12 STEP -1: BEEP .01,n: NEXT
 n
 375 PRINT AT c,d;" "
 376 LET s=s+1
 377 PRINT AT 3,23;"Hits ";s
 390 IF (s/10)-INT (s/10)=0 THEN
 GO TO 405
 400 GO TO 200
 405 LET l=0.7*l: LET q=q+1: GO
TO 160
 410 GO SUB 500: PRINT AT 7,22;"
To play": PRINT AT 8,22;"again":
 PRINT AT 9,22;"ENTER y": PRINT
AT 11,22;"To stop": PRINT AT 12,
22;"ENTER n": INPUT a$
 420 IF a$="y" THEN CLS : GO TO
20
 430 IF a$="n" THEN STOP
 500 FOR y=1 TO 19 STEP 2
 510 FOR x=2 TO 20 STEP 2
 520 PRINT AT y,x; INK 2+RND*5;"
A"
 530 BEEP .005,x
 540 NEXT x
 550 NEXT y
 560 RETURN
1002 IF INKEY$="a" THEN GO TO 29
0
1003 RETURN
1004 IF INKEY$="b" THEN GO TO 29
0
1005 RETURN
1006 IF INKEY$="c" THEN GO TO 29
0
1007 RETURN
1008 IF INKEY$="d" THEN GO TO 29
```

```
0
1009 RETURN
1010 IF INKEY$="e" THEN GO TO 29
0
1011 RETURN
1012 IF INKEY$="f" THEN GO TO 29
0
1013 RETURN
1014 IF INKEY$="g" THEN GO TO 29
0
1015 RETURN
1016 IF INKEY$="h" THEN GO TO 29
0
1017 RETURN
1018 IF INKEY$="i" THEN GO TO 29
0
1019 RETURN
1020 IF INKEY$="j" THEN GO TO 29
0
1021 RETURN
1101 IF INKEY$="9" THEN GO TO 37
0
1102 RETURN
1103 IF INKEY$="8" THEN GO TO 37
0
1104 RETURN
1105 IF INKEY$="7" THEN GO TO 37
0
1106 RETURN
1107 IF INKEY$="6" THEN GO TO 37
0
1108 RETURN
1109 IF INKEY$="5" THEN GO TO 37
0
1110 RETURN
1111 IF INKEY$="4" THEN GO TO 37
0
1112 RETURN
1113 IF INKEY$="3" THEN GO TO 37
0
1114 RETURN
1115 IF INKEY$="2" THEN GO TO 37
0
1116 RETURN
1117 IF INKEY$="1" THEN GO TO 37
0
1118 RETURN
1119 IF INKEY$="0" THEN GO TO 37
0
1120 RETURN
1200 FOR n=1 TO 3: READ p$
1210 FOR f=0 TO 7
1220 READ a: POKE USR p$+f,a
1230 NEXT f
1240 NEXT n
1250 DATA "a",BIN 01111110,BIN 1
1011011,BIN 11111111,BIN 1100001
1,BIN 01111111,BIN 01001001,BIN
11011011,BIN 10010010
1260 DATA "b",BIN 01111110,BIN 1
1011011,BIN 11111111,BIN 1100001
1,BIN 11111110,BIN 10010010,BIN
11011011,BIN 01001001
1270 DATA "p",BIN 10010001,BIN 0
1000010,BIN 00100100,BIN 0000000
1,BIN 10000000,BIN 00100100,BIN
01000010,BIN 10001001
1280 RETURN
```

3D Cube

The graphics on a 16K Spectrum are limited but they can be used for far more than variations on a space invader game. 3D CUBE draws a cube on the screen and rotates it. This creation of large three dimensional characters seems to be an area neglected by Spectrum programmers.



```
1 LET d=80: LET e=20
2 LET a=80: LET b=100: LET c=
130
5 FOR z=0 TO 40
10 CLS : PLOT a,a: DRAW 50,0:
DRAW 0,50: DRAW -50,0: DRAW 0,-5
0
20 PLOT b,b: DRAW 50,0: DRAW 0
,50: DRAW -50,0: DRAW 0,-50
30 PLOT d,d: DRAW b-a,b-a
40 PLOT 130,d: DRAW e,b-a
50 PLOT d,130: DRAW b-a,e
60 PLOT 130,130: DRAW e,e
70 LET b=b-1: LET e=e-1: LET c
=c+1
80 PAUSE 10
90 NEXT z
```

```
100 LET d=80: LET e=20
102 LET a=80: LET b=60: LET c=9
0
105 FOR z=0 TO 40
110 CLS : PLOT a,a: DRAW 50,0:
DRAW 0,50: DRAW -50,0: DRAW 0,-5
0
120 PLOT b,b: DRAW 50,0: DRAW 0
,50: DRAW -50,0: DRAW 0,-50
130 PLOT d,d: DRAW b-a,b-a
140 PLOT 130,d: DRAW -e,b-a
150 PLOT d,130: DRAW b-a,-e
160 PLOT 130,130: DRAW -e,-e
170 LET b=b+1: LET e=e-1: LET c
=c-1
180 PAUSE 10
190 NEXT z
```

Deer Hunt

Your task is to shoot as many deer as possible to relieve the famine from which your tribe is suffering. You are stationed beside a large tree where you have a clear view of a herd of migrating antelope. You must shoot as many as possible, using capital F, with the 25 shots allowed. A startled giraffe watches from among the surrounding bush. The resulting score and number of shots remaining is shown at the bottom of the screen. (16K Spectrum)

```
   5 REM "DEERHUNT"
  1Ø REM SHIFT TO CAPS MODE
  15 REM PRESS "F" TO SHOOT
  2Ø BORDER 3: PAPER 6: CLS
 1ØØ REM TREES & BUSHES (T,B,P&Q
 IN GRAPHIC
 11Ø FOR R=Ø TO 7: READ A
 12Ø POKE USR "T"+R,A: INK 4: NE
XT R
 13Ø DATA 6Ø,255,255,126,24,24,2
4,Ø
 14Ø FOR S=Ø TO 7: READ C
 15Ø POKE USR "B"+S,C: INK 4: NE
XT S
 16Ø DATA Ø,Ø,Ø,6Ø,126,255,126,Ø
 17Ø FOR U=Ø TO 7: READ D
 18Ø POKE USR "P"+U,D: INK 4: NE
XT U
 19Ø DATA 63,255,255,63,7,1,1,1
 2ØØ FOR V=Ø TO 7: READ G
 21Ø POKE USR "Q"+V,G: INK 4: NE
XT V
 22Ø DATA 252,255,255,252,224,12
8,128,128
 3ØØ PRINT AT Ø,Ø;"TT  T TB PQ T
TPQ T T BT T BPQTB"
 31Ø PRINT AT 1,Ø;"  TTBT  T  T
B TT T T  B T T T"
 32Ø PRINT AT 2,Ø;"T T T  PQ T
T  T T B  T  BB  BB"
 33Ø PRINT AT 3,Ø;"T  T T T B T
 BTB T  PQBB B  B"
 34Ø PRINT AT 6,Ø;" TT T T TB PQ
 B   B  BB  PQBBB"
 35Ø PRINT AT 8,Ø;"PQ T TBPQT B
    BPQ B  BB  B"
 36Ø PRINT AT 9,Ø;"T  T T T TB
   B B BB  B  B B"
 37Ø PRINT AT 1Ø,Ø;"T T  T B T T
      B B  B BB BB B"
 38Ø PRINT AT 11,Ø;" T TB T TB
   B  B BB BPQBBB"
 39Ø PRINT AT 12,Ø;"T  PQTB B B
   BB B  B BB  B B"
 4ØØ PRINT AT 13,Ø;"T T B T   BB
B       B  B     B  B"
 41Ø PRINT AT 14,Ø;" B T B  BB
B  B  B  B  B B B  B"
 42Ø PRINT AT 15,Ø;"T B B  BBB
           B  B   B  B"
 43Ø PRINT AT 16,Ø;" B   B  T  P
Q     BPQT B   B"
 44Ø PRINT AT 17,Ø;" PQB    BPQB
          B   PQB B  B PQ"
 45Ø PRINT AT 18,Ø;"BB PQB  T  B
       B  PQB   B"
 46Ø PRINT AT 19,Ø;" PQB  B  B
T       PQTB   BPQ B"
 47Ø PRINT AT 2Ø,Ø;" B PQB PQ BP
Q BPQ  B PQBB  BPQ B"
 5ØØ REM LARGE TREE
 51Ø PLOT 13Ø,48: DRAW 6,Ø: PLOT
 128,47: DRAW 1Ø,Ø: INK 3
 52Ø PLOT 125,46: DRAW 16,Ø: PLO
T 123,45: DRAW 2Ø,Ø: INK 3
 53Ø PLOT 122,44: DRAW 22,Ø: PLO
T 121,43: DRAW 23,Ø: INK 3
 54Ø PLOT 12Ø,42: DRAW 24,Ø: PLO
T 119,41: DRAW 26,Ø: INK 3
 55Ø PLOT 12Ø,4Ø: DRAW 24,Ø: PLO
T 12Ø,39: DRAW 24,Ø: INK 3
 56Ø PLOT 121,38: DRAW 24,Ø: PLO
T 121,37: DRAW 24,Ø: INK 3
 57Ø PLOT 122,36: DRAW 23,Ø: PLO
T 123,35: DRAW 21,Ø: INK 3
 58Ø PLOT 124,34: DRAW 19,Ø: PLO
T 126,33: DRAW 16,Ø: INK 3
 59Ø PLOT 127,32: DRAW 1Ø,Ø: PLO
T 128,31: DRAW 9,Ø: INK 3
 6ØØ PLOT 129,3Ø: DRAW 6,Ø: PLOT
 13Ø,29: DRAW 4,Ø: INK 3
 61Ø PLOT 13Ø,28: DRAW 4,Ø: PLOT
 13Ø,27: DRAW 4,Ø: INK 3
 62Ø PLOT 13Ø,26: DRAW 4,Ø: PLOT
 13Ø,25: DRAW 4,Ø: INK 3
 63Ø PLOT 13Ø,24: DRAW 4,Ø: PLOT
 13Ø,23: DRAW 4,Ø: INK 3
 64Ø PLOT 13Ø,22: DRAW 4,Ø: PLOT
 13Ø,21: DRAW 4,Ø: INK 3
 65Ø PLOT 13Ø,2Ø: DRAW 4,Ø: PLOT
 129,19: DRAW 6,Ø: INK 3
 66Ø PLOT 129,18: DRAW 8,Ø: INK
3
 7ØØ REM GIRAFFE (R & S IN GRAPH
IC)
 71Ø FOR X=Ø TO 7: READ Y
 72Ø POKE USR "R"+X,Y: NEXT X
 73Ø DATA 16,112,24Ø,176,48,48,4
```

```
8,56
 740 FOR M=0 TO 7: READ N
 750 POKE USR "S"+M,N: NEXT M
 760 DATA 56,62,63,51,51,51,99,9
9
 780 PRINT AT 9,24; INK 1;"B": P
RINT AT 10,24; INK 1;"S"
 800 REM DEER (E IN GRAPHIC)
 810 FOR S=0 TO 7: READ B
 820 POKE USR "E"+S,B: INK 1: NE
XT S
 830 DATA 16,32,64,224,127,63,50
,83
 900 REM MAN SHOOTING (M & N IN
GRAPHIC)
 910 FOR L=0 TO 7: READ F
 920 POKE USR "M"+L,F: NEXT L
 930 DATA 4,4,28,36,70,93,93,42
 940 FOR P=0 TO 7: READ Q
 950 POKE USR "N"+P,Q: INK 2: NE
XT P
 960 DATA 28,28,28,28,20,34,34,3
4
 970 PRINT AT 17,14; INK 2;"M":
PRINT AT 18,14; INK 2;"N"
1000 LET SCORE=0
1010 FOR G=1 TO 20: BEEP .008,G:
 NEXT G
1020 LET SHOTS=25
1030 FOR H=50 TO 20 STEP -2: BEE
P .008,H: NEXT H
1040 LET C$="EE   E E    EEE    EE
 E   EEE    E   "
1050 LET D$=C$
1060 LET ACROSS=15
1070 LET DOWN=17+18
1080 PRINT AT 7,0;C$;AT 5,0;D$;A
T 4,0;D$(3 TO  )+D$(1 TO 2): BEE
P .008,55-SHOTS
1090 FOR X=16 TO 8 STEP -1
1100 IF INKEY$="F" THEN PRINT AT
 X,14;"↑"
1110 PRINT AT X,14;" ": NEXT X
1120 IF INKEY$="F" THEN LET SHOT
S=SHOTS-1: BEEP .05,SHOTS: IF C$
(ACROSS)<>"  " THEN LET SCORE=SC
ORE+57: BEEP .05,50-SHOTS: LET C
$(ACROSS)="  "
1130 IF INKEY$="F" THEN BEEP .05
,SHOTS: IF D$(ACROSS)<>" " THEN
LET SCORE=SCORE+517: BEEP .05,50
-SHOTS: LET D$(ACROSS)="  "
1140 PRINT AT 21,0; INVERSE 1;"S
CORE: "; FLASH 1;SCORE; FLASH 0,
"SHOTS LEFT: "; FLASH 1;SHOTS; F
LASH 0;"  "
1150 IF SHOTS<1 THEN PRINT AT 10
,0;"  THAT'S THE END OF THE GAME
": STOP
1160 LET C$=C$(2 TO  )+C$(1)
1170 LET D$=D$(3 TO  )+C$(1 TO 2
)
1180 GO TO 1080
```

Banana Leap

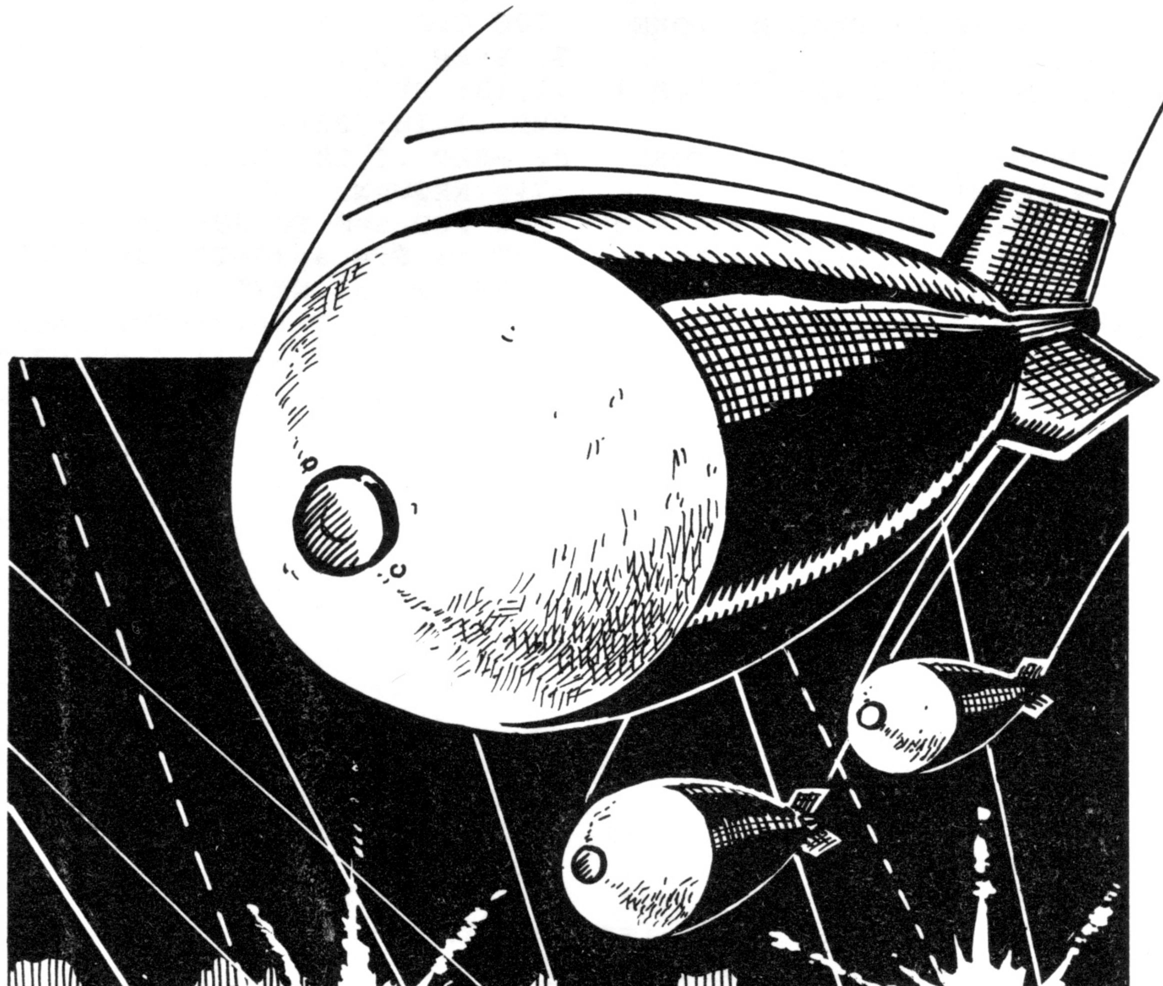
Bunches of ripe bananas hang above you and a swamp lies beneath your feet. Move yourself left and right with the usual cursor keys to collect the bananas. Every time you land you will make a hole in the swamp, which you must avoid in the future. Once you have gained 500 points an angry monkey appears and begins to chase you, followed once you have 1000 points, by a second monkey. For the 16K Spectrum.

```
O SUB 400: GO SUB 500          1 G
   2 LET total=0: LET score=0
   3 LET x=1
   4 LET g$="H"
   5 LET c=20: LET d=5
   6 LET m=12: LET n=23
   7 LET p=12: LET q=7
  10 DIM a(3): DIM b(20)
  20 LET b$="*"
  30 FOR d=1 TO 3: LET a(d)=d: N
EXT d
  40 FOR e=1 TO 5: LET b(e)=e+2:
 NEXT e
  50 FOR f=6 TO 10: LET b(f)=f+4
: NEXT f
  60 FOR g=11 TO 15: LET b(g)=g+
6: NEXT g
  70 FOR h=16 TO 20: LET b(h)=h+
8: NEXT h
  75 FOR z=0 TO 31: PRINT AT 21,
z; INK 4; PAPER 7;"(isp)": NEXT
z
  80 PRINT AT a(1),b(2); INK 6;
PAPER 7;b$;AT a(1),b(4);b$;AT a(
1),b(6);b$;AT a(1),b(8);b$;AT a(
1),b(10);b$;AT a(1),b(12);b$;AT
a(1),b(14);b$;AT a(1),b(16);b$;A
T a(1),b(18);b$;AT a(1),b(20);b$
  90 PRINT AT a(2),b(1); INK 6;
PAPER 7;b$;AT a(2),b(3);b$;AT a(
2),b(5);b$;AT a(2),b(7);b$;AT a(
2),b(9);b$;AT a(2),b(11);b$;AT a
(2),b(13);b$;AT a(2),b(15);b$;AT
 a(2),b(17);b$;AT a(2),b(19);b$
  95 PRINT AT a(3),b(2); INK 6;
PAPER 7;b$;AT a(3),b(4);b$;AT a(
3),b(6);b$;AT a(3),b(8);b$;AT a(
3),b(10);b$;AT a(3),b(12);b$;AT
a(3),b(14);b$;AT a(3),b(16);b$;A
T a(3),b(18);b$;AT a(3),b(20);b$
 100 IF SCREEN$ (c,d)="*" THEN P
RINT AT c,d;" ": BEEP .01,d: LET
 score=score+10: LET total=total
+10
 105 PRINT AT 12,0;"_____________
_____________________"
 110 IF score=300 THEN GO SUB 70
0: LET score=0: GO TO 75
 120 IF ATTR (c,d)=60 THEN PRINT
 AT c,d;"_": BEEP .1,0: LET x=1
 130 IF SCREEN$ (c,d)=" " AND c=
21 THEN GO TO 600
 135 PRINT AT 0,2;"round score=
";score;TAB 21;"total=";total
 137 IF x=-1 THEN LET g$="J"
 138 IF x=1 THEN LET g$="H"
 139 IF c=1 THEN LET g$="I"
 140 PRINT AT c,d;g$
 145 IF total>=500 THEN PRINT AT
 m,n; INK 2;"K": BEEP .01,n
 147 IF total>=1000 THEN PRINT A
T p,q; INK 1;"K"
 150 IF c=1 THEN LET x=-1
 153 IF total>=500 AND c=m AND d
=n THEN GO TO 800
 156 IF total>=1000 AND c=p AND
d=q THEN GO TO 800
 160 PRINT AT c,d;" "
 162 IF total>=500 THEN PRINT AT
 m,n; INK 0;" "
 164 IF total>=1000 THEN PRINT A
T p,q; INK 0;"_"
 165 LET c=c-x
 170 IF INKEY$="5" THEN LET d=d-
.5
 180 IF INKEY$="8" THEN LET d=d+
.5
 182 LET s=INT (RND*3)
 185 IF total>=500 AND d<n AND s
=1 THEN LET n=n-s
 187 IF total>=500 AND d>n AND s
=1 THEN LET n=n+s
 188 LET t=INT (RND*3)
 190 IF total>=1000 AND d<q AND
t=1 THEN LET q=q-s
 195 IF total>=1000 AND d>q AND
t=1 THEN LET q=q+t
 197 IF n=q THEN LET q=n-1
 200 GO TO 100
 400 PRINT AT 2,3; FLASH 1;"S P
E C T R U M  S W A M P "
 405 PRINT AT 5,5;"IN THE GAME O
F SWAMP, YOU  MUST GUIDE YOUR MA
N AS HE JUMPS  TO GET THE BANANA
S USING KEYS  FIVE AND EIGHT,BUT
 BE CAREFUL   NOT TO FALL THROUG
H THE FLIMSY  PLANKS OR THE SWAM
P WILL DEVOUR YOU."
```

```
 4Ø6 PRINT AT 12,5; FLASH 1;"BEW
ARE THE ANGRY MONKEY"
 41Ø PRINT AT 2Ø,6; FLASH 1;"ANY
 KEY TO BEGIN"
 413 PAUSE Ø
 417 CLS
 42Ø RETURN
 5ØØ FOR k=Ø TO 7: READ b: POKE
USR "h"+k,b: NEXT k
 51Ø DATA 24,36,153,126,24,1ØØ,1
32,4
 53Ø FOR k=Ø TO 7: READ b: POKE
USR "i"+k,b: NEXT k
 54Ø DATA 68,4Ø,42,29,29,234,8,4
 55Ø FOR k=Ø TO 7: READ b: POKE
USR "j"+k,b: NEXT k
 56Ø DATA 4,132,1ØØ,24,126,153,3
6,24
 57Ø FOR k=Ø TO 7: READ b: POKE
USR "k"+k,b: NEXT k
 58Ø DATA 18,42,18,124,184,184,1
68,255
 59Ø RETURN
 6ØØ FOR x=Ø TO 2Ø: PRINT AT c-x
,d;"GLUG": BEEP .5,c-x: NEXT x:
CLS : PRINT AT 1Ø,4;"YOUR TOTAL
WAS ";total: STOP
 7ØØ CLS : BEEP .1,2Ø: BEEP .1,1
7: BEEP .2,13: BEEP .2,13: BEEP
.1,13: BEEP .1,15: BEEP .1,17: B
EEP .1,18: BEEP .2,2Ø: BEEP .2,2
Ø: BEEP .2,2Ø: BEEP .2,17
 71Ø RETURN
 8ØØ FOR a=Ø TO 3Ø: BEEP .Ø1,a:
NEXT a: FOR a=3Ø TO -3Ø STEP -1:
 BEEP .Ø1,a: NEXT a
 81Ø PRINT AT 1Ø,3;"THE ANGRY MO
NKEY ATE YOU";AT 11,4;"YOUR TOTA
L WAS ";total: STOP
```

Lethal Landscape

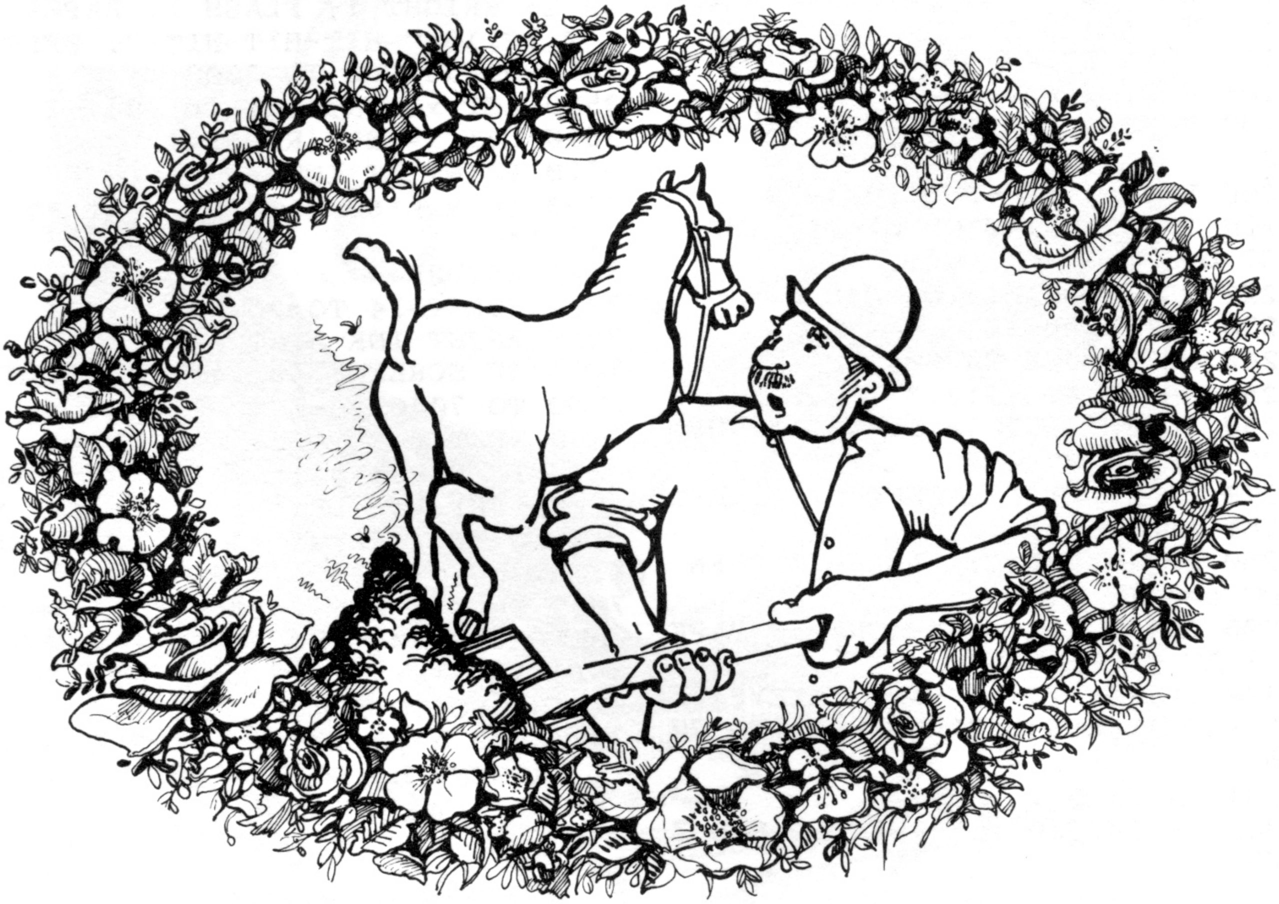
You fly through the air, using keys 6 and 7 to move up and down. You must shoot as many flying bombs as possible, using any other key. Avoid crashing into the landscape or the game will end. (16K Spectrum)



```
   1 REM .......................
.........
   5 LET a=5+PEEK 23635+256*PEEK
 23636
  1Ø FOR n=a TO a+24: READ a$
  15 LET x=CODE a$-48-(39*(a$>"`
")): LET y=CODE a$(2)-48-(39*(a$
(2)>"`"))
  2Ø POKE n,x*16+y: NEXT n
  3Ø DATA "Ø6","cØ","11","ØØ","4
Ø","d5","e1","23","c5","Ø1","1f"
,"ØØ","1a","ed","bØ","2b","77","
ØØ","23","23","13","c1","1Ø","fØ
","c9"
 1ØØ GO SUB 1ØØØ
 11Ø LET sc=Ø: LET a=1Ø: LET bl=
Ø: LET cl=175
 12Ø POKE 2376Ø+16,54
 18Ø PLOT 24Ø,Ø
 19Ø BORDER 1: PAPER 1: INK 6: C
LS
 2ØØ LET b=INT (RND*1ØØ)-5Ø
 21Ø IF bl+b>14Ø OR bl+b<7 THEN
LET b=Ø
 22Ø PLOT 24Ø,bl: DRAW 8,b
 23Ø LET bl=bl+b
 24Ø LET l=USR 2376Ø
 25Ø PRINT AT a,12;"  "
 26Ø IF SCREEN$ (a,14)<>" " THEN
 GO SUB 2ØØØ
 27Ø IF INKEY$="6" AND a<2Ø THEN
 LET a=a+1
 28Ø IF INKEY$="7" AND a>Ø THEN
LET a=a-1
 29Ø PRINT INK 6; BRIGHT 1; PAPE
R 1;AT a,12;" A"
 3ØØ IF INKEY$<>"" AND INKEY$<>"
6" AND INKEY$<>"7" THEN GO TO 7Ø
ØØ
 331 PAUSE 5
 34Ø IF RND*5Ø>=15 THEN GO SUB 3
5ØØ
 35Ø BEEP .ØØ1,5Ø
 36Ø GO TO 2ØØ
1ØØØ RESTORE 1ØØ5
1ØØ5 DATA Ø,Ø,24Ø,1ØØ,127,252,12
Ø,Ø
1Ø1Ø FOR f=Ø TO 7: READ a: POKE
USR "a"+f,a: NEXT f
1Ø2Ø DATA Ø,Ø,Ø,Ø,17Ø,Ø,Ø,Ø
1Ø3Ø FOR f=Ø TO 7: READ a: POKE
USR "d"+f,a: NEXT f
11ØØ RETURN
2ØØØ PRINT AT 3,Ø; BRIGHT 1; PAP
ER 2; INK 7;"SCORE="; FLASH 1;sc
: PRINT AT a,14; INK 7; FLASH 1;
"A": BORDER INT (RND*8): PRINT I
NK 2; BRIGHT 1; FLASH 1; PAPER 5
;AT 12,1Ø;"-HIT-HIT-HIT-": BEEP
.Ø1,RND*5Ø: GO TO 2ØØØ
35ØØ LET x2=INT (21-(bl/8))-1
351Ø LET x=INT (RND*x2)
352Ø PRINT AT INT x,29;"{"
353Ø IF RND*6Ø<2 THEN PRINT AT x
,29;"*"
354Ø RETURN
7ØØØ FOR f=14 TO 2Ø
7Ø1Ø PRINT INK 5;AT a,f;"D"
7Ø2Ø IF SCREEN$ (a,f+1)<>" " THE
N GO TO 7Ø4Ø
7Ø3Ø NEXT f
7Ø4Ø IF SCREEN$ (a,f+1)="{" THEN
 BEEP .Ø1,1Ø: LET sc=sc+1: FOR h
=14 TO f+1: PRINT AT a,h;" ": NE
XT h: GO TO 322
7Ø45 IF SCREEN$ (a,f+1)="*" THEN
 BEEP .Ø1,3Ø: LET sc=sc+1Ø: FOR
h=14 TO f+1: PRINT AT a,h;" ": N
EXT h: GO TO 322
7Ø5Ø FOR h=14 TO f: PRINT AT a,h
;" ": NEXT h: GO TO 322
```

Good for the Roses

You play the part of an enthusiastic gardener, determined to make all your roses bloom in the time allowed. To do so you need fertliser and you have found a plentiful source in the form of a carthorse! Move yourself with the usual cursor keys to pick up the evil-smelling green lumps with a shovel and place them at the foot of your rose stalks. (16K Spectrum)



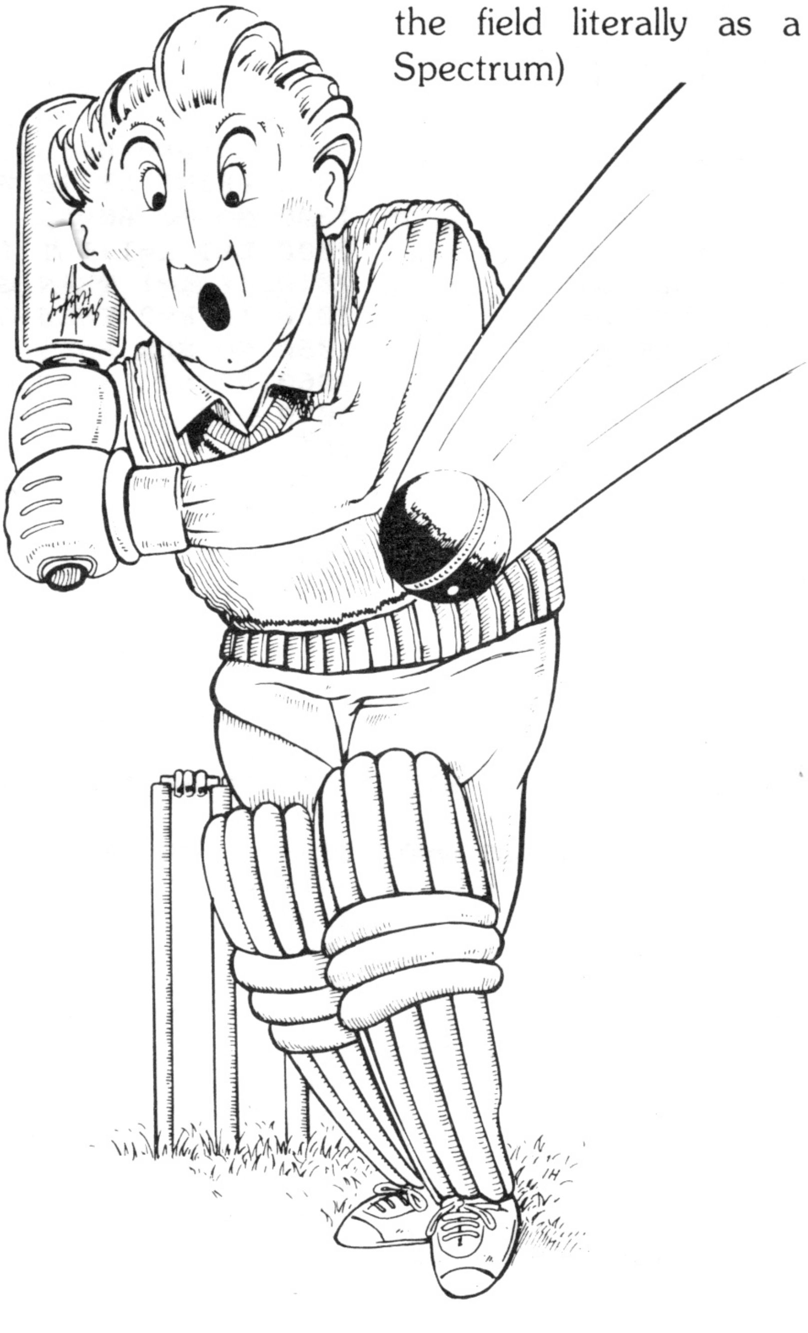
```
  10 GO SUB 9000
  20 GO SUB 8000
  30 GO SUB 7000
  40 GO SUB 6000
  50 LET t=t-1
  60 PRINT INK 3;AT 1,6;t;" "
  70 IF t=0 THEN GO TO 4000
  80 GO TO 30
4000 INPUT "PRESS ENTER TO PLAY
AGAIN";W$
4010 GO TO 20
5000 PRINT FLASH 1;AT 21,10;" WE
LL DONE "
5100 GO TO 4000
5500 PRINT AT hy-1,hhx;"    ";AT
 hy,hhx;" AB ";AT hy+1,hhx;" CD
"; INK 2; FLASH 1; OVER 1;AT hy+
1,hhx+1;"NO"
5510 FOR q=0 TO -30 STEP -1
5520 BEEP .05,q
5530 NEXT q
5540 GO TO 4000
6000 LET x1=x+(INKEY$="8" AND x<
30)-(INKEY$="5" AND x>0)
6010 LET y1=y+(INKEY$="6" AND y<
19)-(INKEY$="7" AND y>3)
6020 IF y=y1 AND x=x1 THEN RETUR
N
6030 PRINT AT y,x;" ";AT y+1,x;"
  "
6040 IF ATTR (y1,x1)>56 OR ATTR
(y1+1,x1)>56 THEN LET y1=y: LET
x1=x
6050 IF ATTR (y1+1,x1+1)>127 THE
N LET s=1: GO TO 6080
6060 IF ATTR (y1+1,x1+1)>56 THEN
 LET y1=y: LET x1=x
6080 PRINT INK 1;AT y1,x1;"E";AT
 y1+1,x1;"FG"
6090 IF s=1 THEN PRINT INK 4; OV
ER 1; FLASH 1;AT y1+1,x1+1;"H"
6100 IF ATTR (y1,x1+2)<>58 AND s
=1 AND y1=19 AND x1>0 THEN PRINT
 INK 2;AT 19,x1+2;"J": LET s=0:
LET r=r+1
6110 PRINT INK 3;AT 1,29;r
6120 IF r=10 THEN GO TO 5000
6130 LET x=x1: LET y=y1
6140 RETURN
7000 LET hx=hx+1
7010 IF hx=30 THEN LET hx=32
7020 IF hx=62 THEN LET hx=64
7030 IF hx=94 THEN LET hx=0
7040 IF hx<31 THEN LET hy=3: LET
 hhx=hx
7050 IF hx>31 AND hx<63 THEN LET
 hy=10: LET hhx=hx-32
7060 IF hx>63 THEN LET hy=17: LE
T hhx=hx-64
7070 IF hx=32 THEN PRINT AT 3,30
;"  ";AT 4,30;"  "
7080 IF hx=64 THEN PRINT AT 10,3
0;"  ";AT 11,30;"  "
7090 IF hx=0 THEN PRINT AT 17,30
;"  ";AT 18,30;"  "
7100 IF ATTR (hy,hhx+1)=57 OR AT
TR (hy+1,hhx+1)=57 THEN GO TO 55
00
7105 IF ATTR (hy,hhx+2)=57 OR AT
TR (hy+1,hhx+2)=57 THEN GO TO 55
00
7110 PRINT AT hy,hhx;" AB";AT hy
+1,hhx;" CD"
7115 IF hhx=0 THEN GO TO 7130
7120 IF RND>0.98 THEN GO SUB 750
0
7130 RETURN
7500 PRINT INK 4; FLASH 1;AT hy+
1,hhx;"H"
7510 FOR q=1 TO 20
7520 BEEP .01,-20: BEEP .01,-10
7530 NEXT q
7540 RETURN
8000 BORDER 5: CLS
8005 LET t=500
8010 PRINT PAPER 2; INK 7;AT 0,1
0;" HORSE-MUCK "
8020 PRINT INK 3;AT 1,1;"TIME=";
t;AT 1,23;"ROSES=0"
8030 PRINT INK 2;AT 6,3;"L(isp)M
 L(isp)M";AT 6,12;"L(isp)M";AT 6
,20;"L(isp)M L(isp)M L(isp)M"
8040 PRINT INK 6;AT 7,3;"K(isp)K
 K(isp)K";AT 7,12;"K(isp)K";AT 7
,20;"K(isp)K K(isp)K K(isp)K"
8050 PRINT INK 6;AT 8,3;"(isp)K(
isp) (isp)K(isp)";AT 8,12;"(isp)
```

```
K(isp)";AT 8,2Ø;"(isp)K(isp) (is
p)K(isp) (isp)K(isp)"
8Ø6Ø PRINT INK 2;AT 13,1;"L(isp)
M L(isp)M";AT 13,13;"L(isp)M L(i
sp)M";AT 13,25;"L(isp)M"
8Ø7Ø PRINT INK 6;AT 14,1;"K(isp)
K K(isp)K";AT 14,13;"K(isp)K K(i
sp)K";AT 14,25;"K(isp)K"
8Ø8Ø PRINT INK 6;AT 15,1;"(isp)K
(isp) (isp)K(isp)";AT 15,13;"(is
p)K(isp) (isp)K(isp)";AT 15,25;"
(isp)K(isp)"
8Ø9Ø FOR q=3 TO 3Ø STEP 3
8Ø91 PRINT INK 4;AT 2Ø,q;"I"
8Ø92 NEXT q
81ØØ PRINT AT 3,1;"AB";AT 4,1;"C
D"
811Ø PRINT INK 1;AT 19,Ø;"E";AT
2Ø,Ø;"FG"
812Ø LET x=Ø: LET y=19: LET hx=Ø
: LET hy=3
813Ø LET r=Ø
814Ø LET s=Ø
82ØØ RETURN
9ØØØ FOR a=USR "a" TO USR "o"+7
9Ø1Ø READ b: POKE a,b
9Ø2Ø NEXT a
9Ø3Ø RETURN
911Ø DATA Ø,Ø,Ø,Ø,127,255,255,25
5
912Ø DATA 8,28,58,127,243,224,22
4,224
913Ø DATA 127,192,16Ø,16Ø,144,14
4,72,Ø
914Ø DATA 224,32,8Ø,72,136,132,6
8,Ø
915Ø DATA Ø,56,56,16,48,88,148,8
4
916Ø DATA 88,2Ø,18,41,72,132,132
,198
917Ø DATA Ø,Ø,Ø,Ø,128,64,6Ø,Ø
918Ø DATA Ø,Ø,Ø,Ø,24,6Ø,Ø,Ø
919Ø DATA 8,8,8,8,8,8,8,8
92ØØ DATA Ø,Ø,6Ø,126,126,255,189
,28
921Ø DATA 255,195,195,195,195,19
5,195,195
922Ø DATA Ø,3,7,15,31,63,127,255
923Ø DATA Ø,192,224,24Ø,248,252,
254,255
924Ø DATA Ø,Ø,Ø,Ø,Ø,3,183,255
925Ø DATA Ø,Ø,Ø,Ø,Ø,98,187,255
```

Cricket

The scene is a perfect wicket in the heart of the Sinclair User office. Lancashire step out confidently to bat first, only to see their first three players out for a duck, much to the amusement of Yorkshire, who are watching the game from a desk on the other side of the office.

Imagine such scenes in your own hom CRICKET is the best cricket program w have seen. The screen display show the team on the field, the path of the ba and even a fielder catching the ball. Yo decide when and where to hit the ba and see how many runs you can scor Any player who fails to score will leav the field literally as a duck. (16 Spectrum)



```
   3 BORDER 4: PAPER 4
   5 PRINT AT Ø,1Ø;"Cricket"
   7 PRINT AT 7,Ø;"Operating Ins
tructions"
   8 PRINT AT 9,2;"7 for next de
livery"
   9 PRINT AT 11,2;"5 to strike
ball on Off-Side"
  1Ø PRINT AT 13,2;"8 to strike
ball on On-Side"
  11 PRINT AT 15,Ø;"  If you don
't bat straight you may get bowl
ed or caught behind! Try not to
get a Duck!"
  12 INPUT "Level of difficulty?
 1-3?";d
  13 IF d<>1 AND d<>2 AND d<>3 T
HEN GO TO 12
  15 IF d=1 THEN LET p=5
  16 IF d=2 THEN LET p=3
  17 IF d=3 THEN LET p=1
  19 DIM t(2)
  2Ø DIM h$(2,12)
  21 LET tt=1
  22 FOR o=1 TO 2
  25 INPUT "Team?";h$(o)
  27 NEXT o
  3Ø LET o=1
  31 IF tt=2 THEN LET o=2
  32 PRINT AT 21,Ø;"Innings of "
;h$(o)
  4Ø PAUSE 25
  5Ø CLS
  6Ø GO SUB 9ØØØ
  65 GO SUB 85Ø5
  72 LET rr=Ø: LET ss=Ø: LET w=Ø
: LET r=Ø
  75 GO TO 45ØØ
  96 INK 7: LET k=Ø: PRINT AT 2Ø
,14;"F": PRINT AT 21,14;"G"
 1ØØ LET x=19: LET y=15
 11Ø FOR n=1 TO 2Ø: INK 2: PRINT
 AT x,y;"E"
 115 PAUSE p
 12Ø PRINT AT x,y;" ": LET x=x-1
 13Ø IF n=1Ø THEN LET q=INT (RND
*5-3): LET y=y+q
 14Ø IF n<>12 AND INKEY$="Ø" THE
N LET n=13
 145 IF x<=3 THEN LET x=3
 15Ø IF n=12 AND y<=15 AND INKEY
$="5" THEN GO TO 5ØØ1
 155 IF n=12 AND y>=16 AND INKEY
$="8" THEN GO TO 5ØØ1
 16Ø IF y<=14 AND n=12 AND INKEY
$="8" THEN GO TO 3ØØØ
 17Ø IF y>=16 AND n=12 AND INKEY
$="5" THEN GO TO 3ØØØ
12ØØ NEXT n
121Ø IF y=b THEN GO TO 13ØØ
122Ø IF y=b+1 THEN GO TO 13ØØ
125Ø GO TO 45ØØ
13ØØ PRINT AT 1Ø,Ø;"BOWLED"
13Ø3 GO SUB 8555
13Ø5 PRINT AT 1Ø,Ø;"         "
13Ø8 GO TO 6Ø95
2ØØØ LET k=1+INT (2*RND)
2Ø1Ø IF k=1 THEN GO TO 22ØØ
2Ø2Ø IF k=2 THEN GO TO 2Ø5Ø
2Ø5Ø GO SUB 8555
2Ø6Ø PRINT AT 1Ø,Ø;"DROPPED"
2Ø7Ø BEEP .1,-1Ø: BEEP .1,-1Ø
2Ø75 PAUSE 5
2Ø8Ø PRINT AT 1Ø,Ø;"         "
2Ø9Ø GO TO 6Ø95
22ØØ PRINT AT 1Ø,Ø;"CAUGHT"
221Ø GO SUB 8555
222Ø PRINT AT 1Ø,Ø;"        "
225Ø GO TO 6Ø95
3ØØØ PRINT AT 3,15;"E";AT 13,Ø;"
CAUGHT BEHIND"
3Ø1Ø GO SUB 8555
3Ø2Ø PRINT AT 3,15;" ";AT 13,Ø;"
             "
3Ø35 GO TO 6Ø95
441Ø GO TO 45ØØ
45ØØ PRINT AT 1Ø,b;"  "
45Ø5 INPUT INKEY$
451Ø IF INKEY$="7" THEN GO TO 85
452Ø IF INKEY$<>"7" THEN GO TO 4
5ØØ
5ØØØ GO TO 45ØØ
5ØØ2 INK 7: PRINT AT 7,m;"L";AT
8,m;"M"
5ØØ3 BEEP .Ø3,Ø
5ØØ5 LET c=x: LET d=y
5ØØ6 LET s=INT (15*RND)
5Ø1Ø LET h=INT (1+4*RND)
```

```
5015 FOR n=1 TO s:
5020 IF h=1 THEN GO TO 5100
5030 IF h=2 THEN GO TO 5110
5040 IF h=3 THEN GO TO 5120
5050 IF h=4 THEN GO TO 5130
5100 LET d=d-1: LET c=c-1: GO TO
 6000
5110 LET d=d-1: LET c=c+1: GO TO
 6000
5120 LET d=d+1: LET c=c-1: GO TO
 6000
5130 LET d=d+1: LET c=c+1
6000 IF c=2 AND d=9 THEN GO TO 2
000
6005 IF c=10 AND d=10 THEN GO TO
 2000
6010 IF c=0 AND d=20 THEN GO TO
2000
6015 IF c=15 AND d=22 THEN GO TO
 2000
6040 INK 2: PRINT AT c,d;"E"
6045 PAUSE 10
6047 IF c<=0 THEN LET n=s: IF c>
=20 THEN LET n=s
6048 IF d<=0 THEN LET n=s: IF d>
=32 THEN LET n=s
6050 PRINT AT c,d;" "
6055 GO SUB 8525
6060 NEXT n
6061 IF s>=0 AND s<=3 THEN LET r
=1
6062 IF s>=4 AND s<=7 THEN LET r
=2
6063 IF s>=8 AND s<=10 THEN LET
r=3
6064 IF s>=11 AND s<=13 THEN LET
 r=4
6078 IF s>=14 THEN LET r=6
6082 INK 1: PRINT AT 10,b;r
6084 PAUSE 10
6086 LET t(o)=t(o)+r
6088 LET rr=t(o)
6095 INK 1: PRINT AT 0,1;h$(o)
6096 PRINT AT 1,2;t(o)
6097 PRINT AT 2,1;"For"
6098 PRINT AT 3,2;w
6099 INK 7
7000 IF w=10 THEN GO TO 8200
7010 GO SUB 8505
8000 GO TO 4500
8200 CLS
8210 PRINT AT 5,5;"All Out"
8220 PRINT AT 7,5;h$(o);" Scored
 ";t(o)
8222 IF o=2 THEN GO TO 8630
8250 INPUT "ENTER for next innin
gs";i$
8260 LET tt=2
8300 CLS
8500 GO TO 28
8505 INK 7: PRINT AT 1,15;"F";AT
 2,15;"N";AT 0,13;"F";AT 1,13;"N
"
8510 PRINT AT 4,27;"F";AT 5,27;"
G";AT 17,7;"F";AT 18,7;"G"
8515 PRINT AT 5,5;"F";AT 6,5;"G"
;AT 20,14;"H";AT 21,14;"G"
8520 LET m=17: LET a=5: LET b=15
8525 INK 7: PRINT AT a,b;"AB";AT
 6,b;"DC";AT 21,b;"AB"
8530 PRINT AT 7,m;"J";AT 8,m;"K"
8535 PRINT AT 2,9;"F";AT 3,9;"N"
;AT 10,10;"F";AT 11,10;"G"
8540 PRINT AT 1,11;"F";AT 2,11;"
N"
8545 PRINT AT 0,20;"F";AT 1,20;"
G";AT 15,22;"F";AT 16,22;"G"
8550 RETURN
8555 INK 7: PRINT AT 2,9;"H";AT
0,13;"H";AT 1,b;"H";AT 5,5;"H"
8560 PRINT AT 1,11;"H";AT 20,14;
"H";AT 21,14;"N"
8565 PRINT AT 15,22;"H";AT 0,20;
"H";AT 10,10;"H"
8567 BEEP .1,12: BEEP .1,10: BEE
P .1,12: BEEP .1,10
8569 IF k=2 THEN RETURN
8575 LET w=w+1
8578  IF ss=rr THEN GO TO 9750
8579 LET ss=t(o)
8580 FOR v=1 TO 17
8585 INK 7: PRINT AT 8,m;"K";AT
7,m;"J"
8590 PAUSE 6
8595 PRINT AT 8,m;"N"
8600 PAUSE 6
8605 PRINT AT 7,m;" ";AT 8,m;" "
8610 LET m=m-1
```

```
8615 NEXT v
862Ø RETURN
8625 STOP
863Ø PAUSE 2Ø
8635 CLS
864Ø IF t(1)>t(2) THEN GO TO 865
Ø
8642 IF t(1)=t(2) THEN GO TO 867
2
8645 IF t(1)<t(2) THEN GO TO 866
5
865Ø LET u=t(1)-t(2)
8655 PRINT AT 1Ø,Ø;h$(1);" wins
by ";u;" runs"
866Ø STOP
8665 LET u=t(2)-t(1)
867Ø PRINT AT 1Ø,Ø;h$(2);" wins
by ";u;" runs"
8671 STOP
8672 PRINT AT 1Ø,Ø;"MATCH DRAWN"
8675 STOP
9ØØØ DATA Ø,Ø,Ø,BIN ØØØ11111,BIN
 ØØØ11ØØ1,BIN ØØØ11ØØ1,BIN ØØØ11
ØØ1,BIN ØØØ11ØØ1
9ØØ5 DATA Ø,Ø,Ø,BIN 11111ØØØ,BIN
 1ØØ11ØØØ,BIN 1ØØ11ØØØ,BIN 1ØØ11
ØØØ,BIN 1ØØ11ØØØ
9Ø1Ø DATA BIN 1ØØ11ØØØ,BIN 1ØØ11
ØØØ,BIN 1ØØ11ØØØ,BIN 1ØØ11ØØØ,BI
N 1ØØ11ØØØ,BIN 1ØØ11ØØØ,BIN 1ØØ1
1ØØØ,BIN 1ØØ11ØØØ
9Ø15 DATA BIN ØØØ11ØØ1,BIN ØØØ11
ØØ1,BIN ØØØ11ØØ1,BIN ØØØ11ØØ1,BI
N ØØØ11ØØ1,BIN ØØØ11ØØ1,BIN ØØØ1
1ØØ1,BIN ØØØ11ØØ1
9Ø2Ø DATA Ø,BIN ØØØ11ØØØ,BIN ØØ1
11100,BIN Ø111111Ø,BIN Ø111111Ø,
BIN ØØ1111ØØ,BIN ØØØ11ØØØ,Ø
9Ø25 DATA BIN ØØØ11ØØØ,BIN ØØ1ØØ
1ØØ,BIN ØØ1ØØ1ØØ,BIN ØØØ11ØØØ,BI
N Ø111111Ø,BIN Ø111111Ø,BIN 1Ø11
11Ø1,BIN 1Ø1111Ø1
9Ø3Ø DATA BIN 1Ø1111Ø1,BIN Ø1111
11Ø,BIN ØØ1111ØØ,BIN ØØ1111ØØ,BI
N ØØ1111ØØ,BIN ØØ1111ØØ,BIN ØØ11
11ØØ,BIN ØØ1111ØØ
9Ø35 DATA BIN ØØØØØØ11,BIN ØØØØØ
Ø11,BIN ØØØØØ11Ø,BIN ØØ11Ø11Ø,BI
N Ø1ØØ111Ø,BIN ØØ11Ø11Ø,BIN 1111
111Ø,BIN 1Ø11111Ø
9Ø4Ø DATA BIN Ø11111ØØ,BIN ØØ111
1ØØ,BIN ØØ1111ØØ,BIN ØØ1111ØØ,BI
N ØØ1111ØØ,BIN ØØ1111ØØ,BIN ØØ11
11ØØ,BIN ØØ1111ØØ
9Ø45 DATA BIN ØØØØØ11Ø,BIN ØØØØ1
ØØ1,BIN ØØØØØ11Ø,BIN ØØØØ111Ø,BI
N ØØØ11111,BIN ØØØ11111,BIN ØØ11
Ø111,BIN Ø11Ø1111
9Ø5Ø DATA BIN Ø1ØØ111Ø,BIN Ø1ØØ1
11Ø,BIN 11111111,BIN 111Ø111Ø,BI
N 111Ø111Ø,BIN 111Ø111Ø,BIN 111Ø
111Ø,BIN Ø1Ø1111Ø
9Ø55 DATA BIN Ø11ØØ11Ø,BIN Ø11Ø1
ØØ1,BIN Ø11ØØ11Ø,BIN Ø11ØØ111,BI
N Ø11ØØ111,BIN Ø11ØØ111,BIN ØØ1Ø
Ø111,BIN ØØ111111
9Ø6Ø DATA BIN ØØØØØ111,BIN ØØØØØ
111,BIN ØØØØØ111,BIN ØØØØØ111,BI
N ØØØØØ111,BIN ØØØØØ111,BIN ØØØØ
Ø111,BIN ØØØØ1111
9Ø65 DATA BIN ØØ1111ØØ,BIN ØØ111
1ØØ,BIN Ø111111Ø,BIN Ø11ØØ11Ø,BI
N Ø11ØØ11Ø,BIN Ø11ØØ11Ø,BIN Ø11Ø
Ø11Ø,BIN 111Ø111Ø
9Ø7Ø DATA Ø,Ø,Ø,BIN ØØ11ØØØØ,BIN
 Ø1111ØØØ,BIN ØØØ11ØØØ,BIN ØØØ11
ØØ1,BIN ØØØ11111
9Ø75 DATA BIN ØØØ11111,BIN ØØØ11
11Ø,BIN ØØØ11111,BIN ØØØ1111Ø,BI
N ØØØØ111Ø,BIN ØØØØØ1ØØ,BIN ØØØØ
Ø1ØØ,BIN ØØØØ11ØØ
9Ø8Ø DATA BIN ØØØ11111,BIN ØØØ11
11Ø,BIN ØØØ1111Ø,BIN ØØØ1111Ø,BI
N ØØØØ111Ø,BIN ØØØØ1Ø1Ø,BIN ØØØØ
1Ø1Ø,BIN ØØØØ1Ø1Ø
91ØØ RESTORE 9ØØØ
911Ø FOR f=Ø TO 7: READ a: POKE
USR "a"+f,a: NEXT f
912Ø FOR f=Ø TO 7: READ a: POKE
USR "b"+f,a: NEXT f
913Ø FOR f=Ø TO 7: READ a: POKE
USR "c"+f,a: NEXT f
914Ø FOR f=Ø TO 7: READ a: POKE
USR "d"+f,a: NEXT f
915Ø FOR f=Ø TO 7: READ a: POKE
USR "e"+f,a: NEXT f
916Ø FOR f=Ø TO 7: READ a: POKE
USR "f"+f,a: NEXT f
```

```
917Ø FOR f=Ø TO 7: READ a: POKE
USR "g"+f,a: NEXT f
918Ø FOR f=Ø TO 7: READ a: POKE
USR "h"+f,a: NEXT f
919Ø FOR f=Ø TO 7: READ a: POKE
USR "i"+f,a: NEXT f
92ØØ FOR f=Ø TO 7: READ a: POKE
USR "j"+f,a: NEXT f
921Ø FOR f=Ø TO 7: READ a: POKE
USR "k"+f,a: NEXT f
922Ø FOR f=Ø TO 7: READ a: POKE
USR "l"+f,a: NEXT f
923Ø FOR f=Ø TO 7: READ a: POKE
USR "m"+f,a: NEXT f
924Ø FOR f=Ø TO 7: READ a: POKE
USR "n"+f,a: NEXT f
925Ø FOR f=Ø TO 7: READ a: POKE
USR "o"+f,a: NEXT f
926Ø FOR f=Ø TO 7: READ a: POKE
USR "p"+f,a: NEXT f
927Ø FOR f=Ø TO 7: READ a: POKE
USR "q"+f,a: NEXT f
94ØØ RETURN
975Ø FOR v=1 TO 17
9755 INK 7: PRINT AT 8,m;"P";AT
7,m;"O"
976Ø PAUSE 6
9765 PRINT AT 8,m;"Q"
977Ø BEEP .1,-1Ø
9775 PRINT AT 7,m;" ";AT 8,m;" "
978Ø LET m=m-1
9785 NEXT v
98ØØ GO TO 862Ø
9999 CLS : LET z=(PEEK 2373Ø+(25
6*PEEK 23731))-(PEEK 23653+(256*
PEEK 23654)): PRINT "Spare Memor
y=";z
```

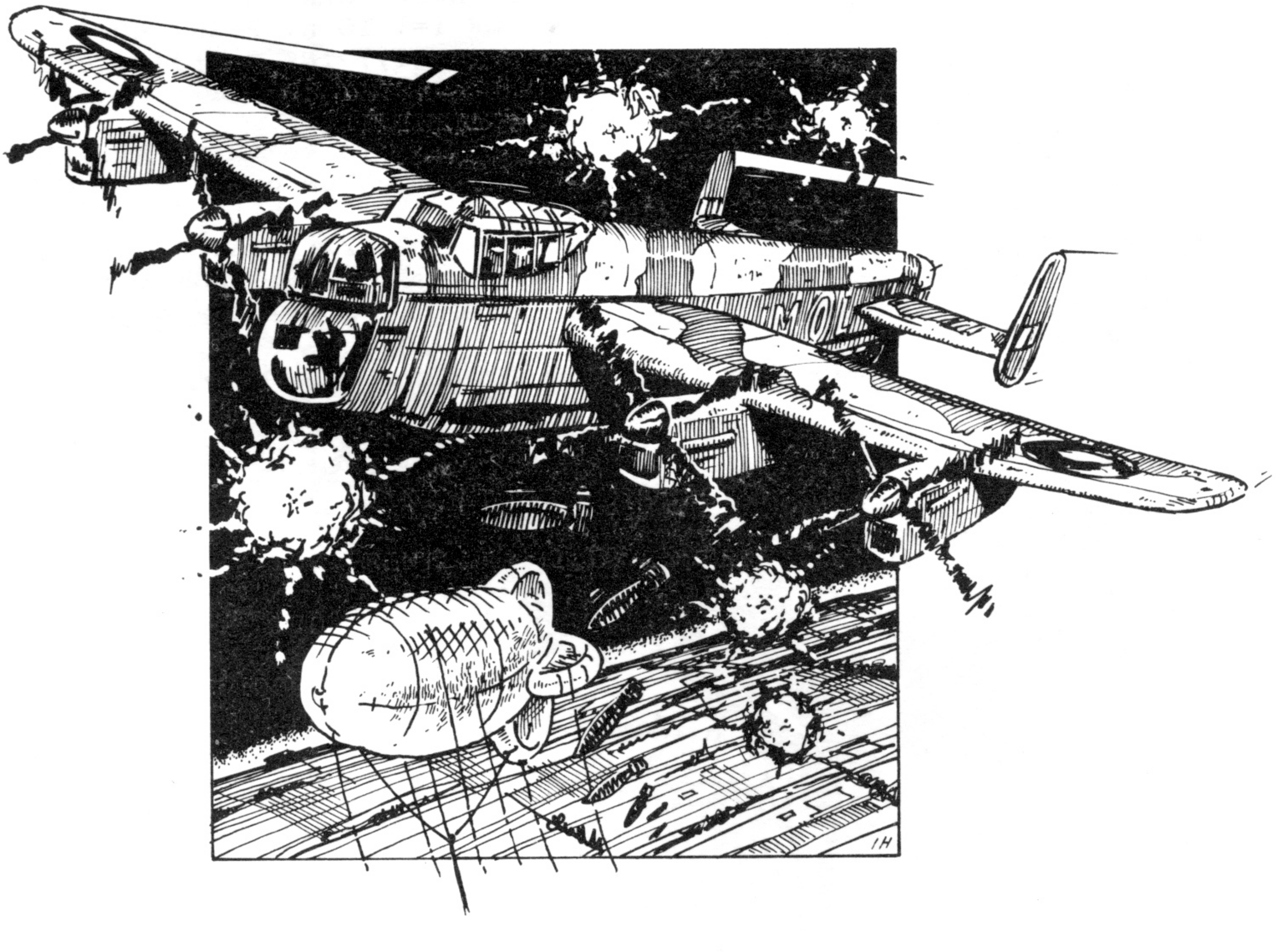
Simon Says

Simon is based on the popular electronic game. It produces random collections of colours and sounds for the player to repeat. A block of colour appears on the screen with the colour number and a corresponding tone. Type in the numbers which the computer has produced, remembered and repeated rises steadily from 1 to 30. (16K Spectrum)

```
  1 BEEP .5,Ø: BEEP .5,2: BEEP
.5,4: BEEP .5,5: BEEP .5,7: BEEP
 .5,9: BEEP .5,11: BEEP .5,12: G
O TO 3
  2 PAPER 7: BORDER 5: INK 2:
  8 PRINT AT 9,1;"***SIMON SIMO
N SIMON SIMON SIMON SIMON SIMON
SIMON SIMON SIMON SIMON SIMON SI
MON SIMON SIMON***": PAUSE 1ØØ
 1Ø DIM r(3Ø): DIM a(3Ø)
 15 PAPER 7: INK Ø: BORDER 7: C
LS
 2Ø FOR i=1 TO 3Ø: LET r(i)=INT
 (RND*8): NEXT i
 3Ø FOR n=1 TO 3Ø
 4Ø INPUT "Press*ENTER*when*you
*are*ready"; LINE z$
 5Ø FOR c=1 TO n
 6Ø LET cn=r(c): GO SUB 3ØØ
 8Ø CLS : NEXT c
 9Ø FOR c=1 TO n
1ØØ INPUT ("What*was*colour*num
ber*";c;"?");a(c)
11Ø IF a(c)<>INT a(c) OR a(c)<Ø
 THEN INPUT "Between*Ø*&*7.**Re-
enter:";a(c): GO TO 11Ø
12Ø LET cn=a(c): GO SUB 3ØØ
13Ø IF a(c)<>r(c) THEN BEEP 2,-
2Ø: GO TO 18Ø
14Ø NEXT c
15Ø INPUT (" You've done*";n;"*
correctly*********(c)*to*continu
e*or*(s)*to*stop?(c/s)"); LINE z
$: IF z$="s" THEN STOP
16Ø NEXT n
17Ø PRINT AT 15,Ø;"Well*done**Y
ou've*beaten*me."
18Ø PRINT AT 16,Ø;"The*sequence
*was:"
187 PAUSE 15Ø
19Ø IF n>3Ø THEN LET n=3Ø
2ØØ FOR i=1 TO n: PRINT BRIGHT
1; PAPER r(i); INK 9;r(i);: BEEP
 Ø.5,r(i)*5-2Ø: NEXT i
21Ø STOP
3ØØ FOR i=6 TO 9: PRINT AT i,11
; BRIGHT 1; PAPER cn;"****": NEX
T i
3Ø5 PLOT 88,127: DRAW Ø,-31: DR
AW 31,Ø: DRAW Ø,31: DRAW -31,Ø
31Ø PRINT AT 6,14; INK 9;cn: BE
EP 1,cn*5-2Ø
32Ø RETURN
```

Beat the Barrage

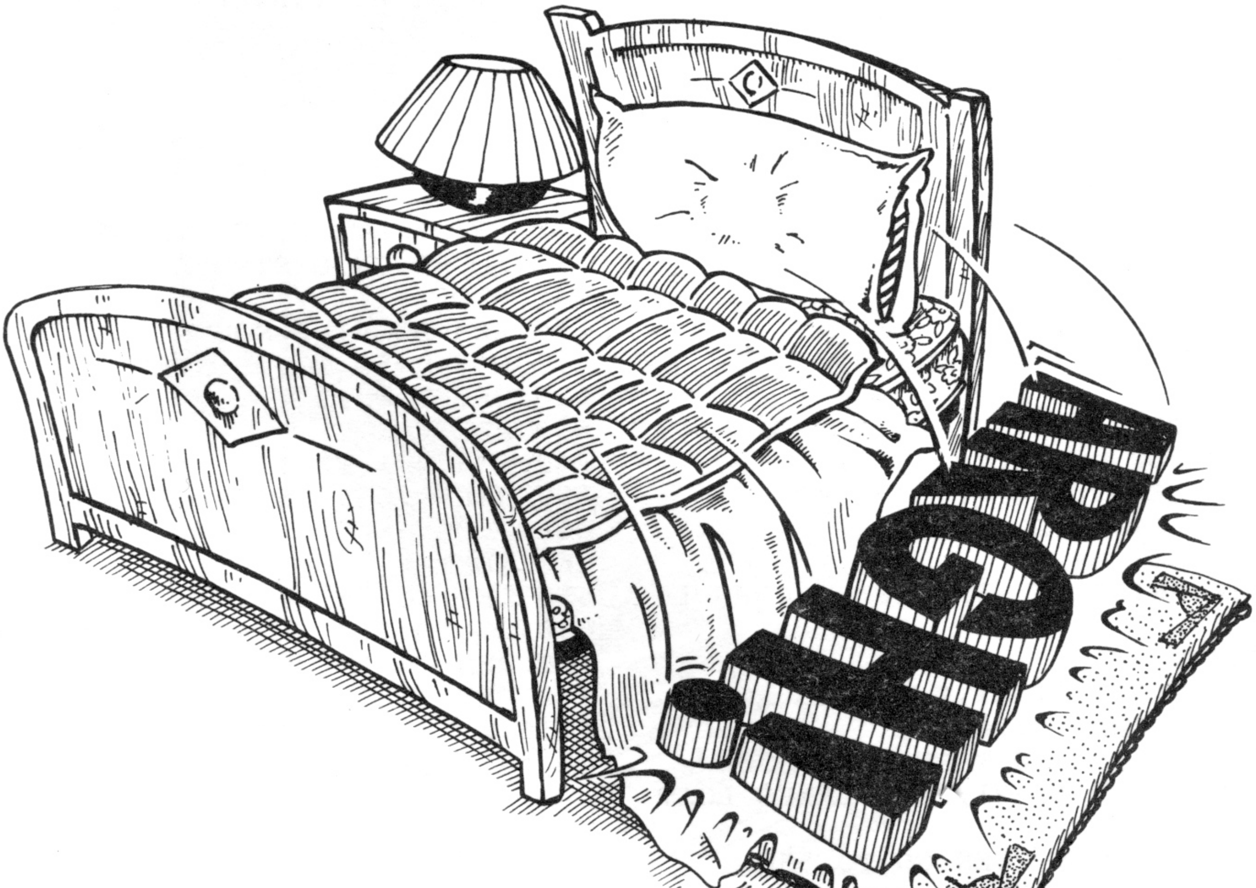
You are a pilot with five aircraft and your mission is to cross the screen 10 times and to drop 100 bombs. Your way is impeded by a number of barrage balloons, which explode an aircraft when they are hit. Difficulty levels range from leisurely speed five to the fast and furious speed one. (16K Spectrum)



```
   5 REM ***BEAT THE BARRAGE***
  10 GO SUB 700
 100 REM INSTRUCTIONS/DIFFICULTY
 105 BORDER 6
 110 PRINT AT 0,2;"BEAT THE BARR
AGE"
 120 PRINT AT 2,2;"You have to d
rop 100 BOMBS";AT 3,2;"to comple
te the mission";AT 4,2;"You have
 5 PLANES"
 125 PRINT AT 6,2;"Use z key to 
move downwards";AT 8,2;"Use m ke
y to move upwards"
 130 PRINT AT 10,2;"ENTER LEVELS
 OF DIFFICULTY"
 140 PRINT AT 12,2;"First enter 
speed of planes";AT 13,2;"(1-5, 
5 is slowest)"
 150 INPUT sp: IF sp<1 OR sp>5 T
HEN GO TO 150
 160 PRINT AT 15,2;"Now enter am
ount of";AT 16,2;"Barrage Balloo
ns";AT 17,2;"(20-60, 20 is easie
st)"
 170 INPUT ba: IF ba<20 OR ba>60
 THEN GO TO 170
 180 LET cr=0: LET sc=0
 190 CLS
 200 REM INITIATE BALLOONS
 210 FOR n=1 TO ba
 220 LET v=INT (RND*18)+3
 230 LET h=INT (RND*32): IF h<3 
THEN LET h=3
 240 PRINT AT v,h; INK 4;CHR$ 14
8
 250 NEXT n
 260 PRINT AT 21,0;"BOMBS AWAY=
";sc: BEEP .2,20
 270 IF sc=100 THEN GO TO 500
 280 PRINT AT 21,16;"PLANES LOST
= ";cr
 290 IF cr=5 THEN GO TO 530
 295 PAUSE 100
 300 REM PLANES
 310 LET v=INT (RND*18)+3
 320 FOR h=0 TO 31
 330 LET c$=INKEY$
 340 IF c$="" THEN PRINT AT v,h-
1;" "
 350 IF c$="z" THEN PRINT AT v,h
-1;" ": LET v=v+1: IF v>20 THEN 
LET v=20
 360 IF c$="m" THEN PRINT AT v,h
-1;" ": LET v=v-1: IF v<0 THEN L
ET v=0
 370 IF h=31 THEN GO TO 600
 380 IF ATTR (v,h)=60 THEN PRINT
 AT v,h; INK 2; FLASH 1; BRIGHT 
1;CHR$ 147: FOR n=1 TO 25: BEEP 
.06,-15: BEEP .1,15: NEXT n: PRI
NT AT v,h;" ": LET cr=cr+1: GO T
O 280
 390 PRINT AT v,h;CHR$ 144
 400 PAUSE sp
 410 NEXT h
 500 REM END GAME
 510 PRINT AT 10,10; INK 3; FLAS
H 1;"MISSION COMPLETED"
 520 STOP
 530 PRINT AT 10,10; INK 3; FLAS
H 1;"SQUADRON DESTROYED"
 540 STOP
 600 REM BOMBING SOUND
 610 FOR n=50 TO 29 STEP -.5
 620 BEEP .05,n
 630 NEXT n
 640 FOR x=1 TO 15
 650 BEEP .05,-25: BEEP .05,-35:
 BEEP .05,-60
 660 NEXT x
 670 LET sc=sc+10
 680 GO TO 260
 700 REM GRAPHICS
 710 DATA "a",16,24,156,255,156,
24,16,0,"d",145,0,36,0,145,0,36,
145,"e",0,0,120,253,255,253,120,
0
 720 FOR n=1 TO 3
 730 READ a$
 740 FOR a=0 TO 7
 750 READ b: POKE USR a$+a,b
 760 NEXT a
 770 NEXT n
 780 RETURN
```

Rollover

Rollover is an eye catching program which can be run by itself or incorporated into another program. It is designed to make a word, name or title roll over, thus drawing attention to it. Any word can be inserted in the program, by changing the values of x. The program was written for the 16K or 48K Spectrum.



```
  1Ø LET x$="Roll Over": GO SUB
9ØØØ
  2Ø LET x$="Try Again": GO SUB
9ØØØ
  3Ø STOP
9ØØØ LET gr=PEEK 23675+256*PEEK
23676
9Ø1Ø LET ch=PEEK 236Ø6+256*PEEK
236Ø7
9Ø2Ø FOR z=Ø TO (LEN x$-1): LET
a=CODE x$(z+1)
9Ø3Ø FOR n=Ø TO 7: LET v=PEEK (c
h+(a*8)+n)
9Ø4Ø POKE (gr+(16*z)+n),v
9Ø5Ø POKE (gr+(16*z)+8+n),v
9Ø6Ø NEXT n: NEXT z
9Ø7Ø FOR r=1 TO 1Ø
9Ø8Ø POKE 23675,88+8
9Ø9Ø FOR n=7 TO Ø STEP -1: POKE
23675,(n+88)
91ØØ FOR z=1 TO LEN x$: LET x$(z
)=CHR$ (142+2*z): NEXT z
911Ø PRINT AT 1Ø,1Ø;x$: NEXT n:
NEXT r
912Ø POKE 23675,88: RETURN
```

Save Romeo

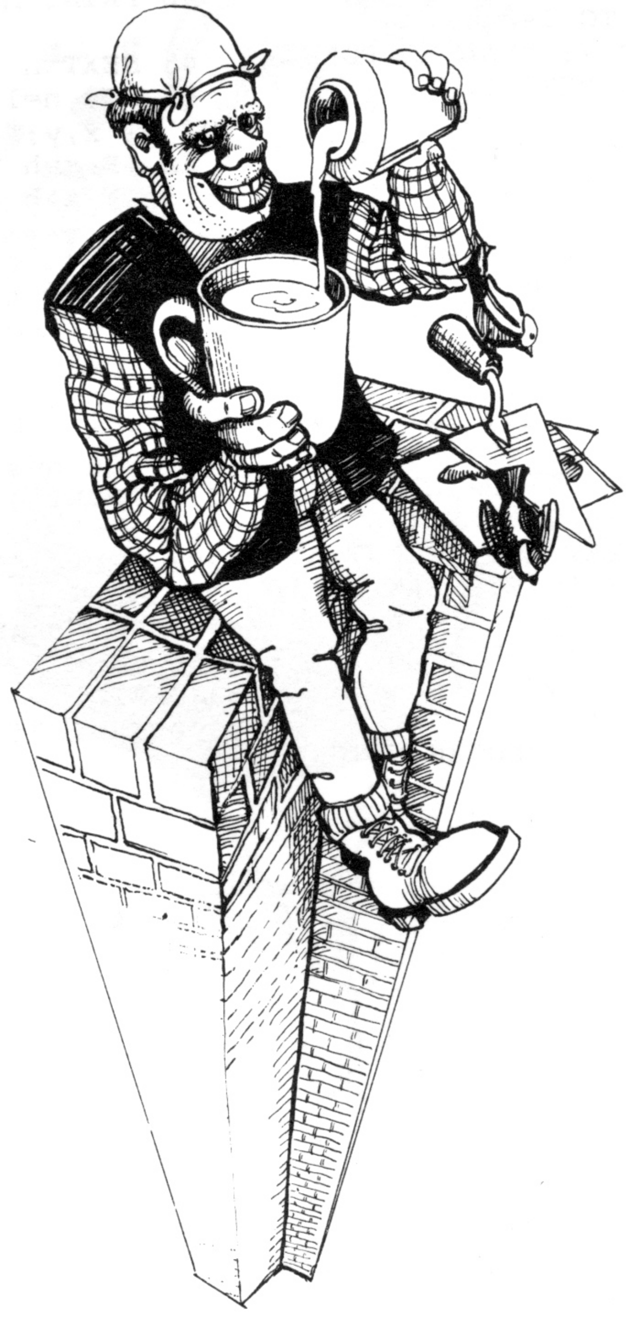
Romeo stands on a see-saw trying to leap to the balcony above. You stand on the opposite building and drop down a weight between 1 and 14 which will land at the other end of the see-saw and send him shooting up to the balcony. If you pick the wrong weight he will either travel too far, or fall short and be smashed to a pulp. (16K Spectrum)

Use graphic 'A' in lines 15, 40 and 46; graphic 'B' in line 23; graphic 'C' in line 23; graphic 'D' in line 240 and graphic 'E' in lines 60 and 210.

```
   1 PAPER Ø: INK 7: BORDER Ø: C
LS
   2 DATA 56,56,146,254,16,124,6
8,198
   3 DATA Ø,255,171,171,171,171,
255,255
   4 DATA Ø,Ø,28,2Ø,62,62,127,12
7
   5 DATA Ø,Ø,Ø,Ø,24,126,255,255
   6 DATA 192,224,224,24Ø,24Ø,22
4,224,192
   7 FOR n=144 TO 148
   8 FOR f=Ø TO 7: READ a: POKE
USR CHR$ n+f,a: NEXT f
   9 NEXT n
  1Ø PRINT AT 4,Ø; INK 6;"(isp)
(isp) (isp) (isp)";AT 5,Ø;"(7*is
p)";AT 6,Ø;"(7*isp)"
  11 FOR n=7 TO 21: PRINT AT n,1
; INK 6;"(5*isp)": NEXT n
  12 PRINT AT 11,13; INK 4;"(g7:
2*isp)";AT 12,15;"(g7)";AT 13,15
;"(g5)";AT 14,15;"(g1)";AT 18,15
;"(g5)";AT 19,15;"(g5)";AT 2Ø,15
;"(g5)";AT 21,15;"(ig2)"
  13 FOR n=11 TO 21: PRINT AT n,
16; INK 4;"(16*isp)": NEXT n
  14 LET x=21: LET y=8: PRINT AT
 21,1Ø;"O": PLOT 64,Ø: DRAW 37,1
6
  15 PRINT AT x,y; INK 5;"A"
  17 LET h=INT (RND*11)+8
  18 PRINT AT h+1,6;"B"
  2Ø PRINT AT 4,11;"ENTER WEIGHT
";AT 5,13;"(max.14)"
  22 INPUT w: IF w<=Ø OR w>=15 T
HEN GO TO 22
  23 FOR n=1Ø TO 2Ø: PRINT AT n-
1,12;" ";AT n,12;"C": BEEP .1,n:
 NEXT n
  3Ø PLOT 64,Ø: DRAW OVER 1;37,1
6: PLOT 64,16: DRAW 37,-16
  35 FOR n=1 TO w
  36 LET x=x-1
  4Ø PRINT AT x,y;"A";AT x+1,y;"
"
  45 NEXT n
  46 FOR n=1 TO 2: LET y=y-1: PR
INT AT x,y;"A ": NEXT n
  5Ø IF x=h THEN GO TO 1ØØ
  55 IF x>h THEN GO TO 2ØØ
  6Ø IF x<=h THEN PRINT AT x,y;
INK 5;"E": BEEP 1,-1Ø: STOP
 1ØØ PRINT AT x,y+1;"WELL DONE!"
 11Ø FOR n=Ø TO 4Ø STEP 1Ø: BEEP
 .1,n: NEXT n
 12Ø CLS
 13Ø RUN
 2ØØ FOR n=x TO 21
 21Ø PRINT AT n,y; INK 5;"E";AT
n-1,y;" "
 22Ø BEEP .Ø5,n
 23Ø NEXT n
 24Ø PRINT AT 21,y; INK 5;"D"
 25Ø BEEP 1,-1Ø
 3ØØ STOP
9999 SAVE "fortress" LINE 1
```

Bricky

You are a bricklayer erecting a green wall. The computer plays the part of another bricklayer producing a yellow wall. The first player to bump into a wall loses the round. An added complication is the appearance of black muddy holes on the screen. If you walk into one of them you lose five points but if you can force the computer into one you score five points. Move up using 'Q', move down by using 'Z', move left by using 'I' and move right by using 'P'. This fast moving game was written for the 16K or 48K Spectrum.



```
   4 FOR e=Ø TO 7: READ r: POKE
USR "a"+e,r: NEXT e
   5 DATA 126,126,126,Ø,231,231,
231,Ø
  1Ø INK 7: PAPER 1: BORDER 1: C
LS
  12 LET s=Ø: LET o=Ø
  2Ø PRINT AT Ø,1Ø;"AA BRICKY AA
"
  3Ø PRINT '"You are a bricklaye
r, building  a wall on the scree
n."
  4Ø PRINT '"A rival bricky is a
lso on site  building his wall."
  41 PRINT '"The first person to
 crash into awall will lose"
  5Ø PRINT '"You control the dir
ection that  you move in by:-"
  6Ø PRINT '"'Q' up","'Z' down",
"'I' left","'P' right"
  65 PRINT '"Your wall is colour
ed green      "; INK 4;"AAAAAAA"
  66 PRINT "The SPECTRUM has a y
ellow wall. "; INK 6;"AAAAAAA"
  68 PRINT TAB 2Ø; FLASH 1;"PRES
S A KEY"
  7Ø PAUSE Ø: CLS : PRINT "Bewar
e deep black holes. If you fall
down one you lose 5 points."
  8Ø PRINT '"If you can force th
e Spectrum   down one you score
5 points"
  9Ø INPUT "PRESS ENTER FOR A GA
ME "; LINE u$
 1ØØ PRINT AT Ø,Ø;: FOR r=1 TO 2
2: PRINT "......................
..........": NEXT r
 12Ø LET a=8: LET b=8
 13Ø LET c=12: LET d=22
 14Ø LET p=INT (RND*2Ø+1): LET q
=INT (RND*3Ø+1): IF p=8 OR p=12
THEN GO TO 14Ø
 15Ø PRINT AT p,q; PAPER Ø;" "
 16Ø POKE 2356Ø,112
 17Ø LET c3=SGN (RND-.5)
 18Ø LET d3=SGN (RND-.5)
 19Ø LET cl=c3*(RND<.5)
 2ØØ LET dl=d3*(cl=Ø)
2ØØØ LET l=PEEK 2356Ø
2Ø4Ø IF l=1Ø5 THEN LET b=b-l+32*
(b=Ø)
2Ø5Ø IF l=112 THEN LET b=b+l-32*
(b=31)
2Ø7Ø IF l=122 THEN LET a=a+l-22*
(a=21)
2Ø8Ø IF l=113 THEN LET a=a-l+22*
(a=Ø)
211Ø IF SCREEN$ (a,b)<>"." THEN
GO TO 51ØØ
212Ø PRINT AT a,b; INK 4;"A";AT
c,d; INK 6;"A"
213Ø LET dd=d: LET cc=c
214Ø IF RND>.9 THEN GO TO 4ØØØ
215Ø LET c=c+cl: LET d=d+dl
216Ø GO SUB 8ØØØ
217Ø IF SCREEN$ (c,d)<>"." THEN
GO TO 4ØØØ
219Ø GO TO 2ØØØ
4ØØØ LET c2=cl: LET d2=dl
41ØØ LET cl=c3*(cl=Ø): LET dl=d3
*(dl=Ø)
411Ø LET c=cc+cl: LET d=dd+dl
412Ø LET c=c+22*((c<Ø)-(c>21))
413Ø LET d=d+32*((d<Ø)-(d>31))
415Ø IF SCREEN$ (c,d)="." THEN G
O TO 2ØØØ
451Ø LET c=cc-cl: LET d=dd-dl
452Ø LET c=c+22*((c<Ø)-(c>21))
453Ø LET d=d+32*((d<Ø)-(d>31))
455Ø IF SCREEN$ (c,d)="." THEN L
ET cl=-cl: LET dl=-dl: LET c3=cl
+c2: LET d3=dl+d2: GO TO 2ØØØ
5ØØØ LET cl=c2: LET dl=d2
5Ø1Ø LET c=cc+cl: LET d=dd+dl
5Ø2Ø GO SUB 8ØØØ
5Ø5Ø IF SCREEN$ (c,d)="." THEN G
O TO 2ØØØ
5Ø6Ø GO TO 7ØØØ
51ØØ IF ATTR (a,b)=7 THEN BEEP .
3,-1Ø: BEEP .4,-2Ø: LET s=s+4: G
O TO 512Ø
511Ø PRINT AT a,b; FLASH 1;"*"
512Ø LET s=s+1
513Ø FOR r=2Ø TO -2Ø STEP -1: BE
EP .Ø1,r: NEXT r
6ØØØ PRINT AT Ø,Ø; INK Ø; PAPER
7;"  YOU ";o;"    SPECTRUM ";s;"
 ": GO TO 9Ø
7ØØØ LET o=o+1
```

```
7Ø1Ø IF (p=cc OR q=dd) AND (ABS
(dd-q)=1 OR ABS (cc-p)=1) THEN L
ET o=o+4: BEEP .3,Ø: BEEP .4,8:
GO TO 7Ø4Ø
7Ø2Ø PRINT AT c,d; FLASH 1;"*"
7Ø4Ø FOR r=-2Ø TO 2Ø: BEEP .Ø1,r
: NEXT r
7Ø5Ø GO TO 6ØØØ
8ØØØ LET c=c+22*((c<Ø)-(c>21))
8Ø1Ø LET d=d+32*((d<Ø)-(d>31))
8Ø2Ø RETURN
```

Gold

Hurry around the cave picking up the golden coins. The evil trolls are out to get you. Find as many coins as possible before they trap you or you run out of air. Underlined letters should be entered in graphics mode. Underlined minus signs should be entered as inverse minus signs. (16K Spectrum)

```
   1 LET st=4Ø
   2 LET m=Ø
   3 LET f=Ø
  1Ø DATA 6Ø,24,24,255,24,36,36,
1Ø2
  2Ø FOR a=Ø TO 7: READ b: POKE
USR "A"+a,b: NEXT a
  3Ø PRINT INK 1;"TRY AND ESCAPE
"
  4Ø PRINT INK 2;"FROM THE -S"
  5Ø PRINT INK 3;"WHILE SEARCHIN
G"
  6Ø PRINT INK 4;"FOR "; INK 6;"
GOLD"
  65 FOR a=1 TO 6Ø: BEEP .Ø1,a:
NEXT a
  8Ø PRINT AT 21,5;"PRESS ANYKEY
"
  9Ø PAUSE Ø: CLS
 1ØØ PRINT AT Ø,5;"CONTROLS:"
 11Ø PRINT AT 3,5;"5=LEFT"
 12Ø PRINT AT 4,5;"8=RIGHT"
 13Ø PRINT AT 5,5;"6=DOWN"
 14Ø PRINT AT 6,5;"7=UP"
 18Ø PRINT AT 7,5;"Q=QUIT"
 19Ø PRINT AT 21,6;"PRESS ANY KE
Y": PAUSE Ø: CLS
 195 FOR A=Ø TO 31: PRINT AT Ø,A
;"-";AT 14,a;"-": NEXT a
 2ØØ FOR a=1 TO 14: PRINT AT a,Ø
;"-";AT a,31;"-": NEXT a: PRINT
AT 14,INT (RND*29);" "
 211 LET a=1Ø: LET b=1Ø
 22Ø LET c=INT (RND*13)+1
 23Ø LET d=INT (RND*29)+1
 235 IF c=a AND d=b THEN GO TO 2
11
 24Ø PRINT AT a,b;"A"
 25Ø PRINT AT c,d;"-"
 26Ø LET a$=INKEY$
 261 IF st=Ø THEN PRINT "YOU ARE
 DEAD": GO TO 123Ø
 262 IF a=21 AND f>999 THEN PRIN
T "WELL DONE YOU HAVE ESCAPED":
FOR A=64 TO 1: BEEP .1,A: NEXT A
: RUN
 263 IF A=21 AND F<1ØØØ THEN PRI
NT "YOU DON'T HAVE ENOUGH GOLD":
 STOP
 264 PRINT AT 2Ø,Ø;f
 265 IF a$="Q" OR a$="q" THEN GO
 TO 12ØØ
 27Ø IF a$="5" THEN GO TO 4ØØ
 28Ø IF a$="8" THEN GO TO 5ØØ
 29Ø IF a$="6" THEN GO TO 6ØØ
 3ØØ IF a$="7" THEN GO TO 7ØØ
 35Ø GO TO 26Ø
 41Ø IF SCREEN$ (a,b-1)<>" " THE
N PRINT AT 21,Ø;"OUCH": BEEP .5,
-1Ø: PRINT AT 21,Ø;"    ": LET s
t=st-1: GO TO 35Ø
 42Ø PRINT AT a,b;" "
 43Ø LET b=b-1
 44Ø PRINT AT a,b;"A"
 45Ø LET x=INT (RND*1Ø)
 46Ø IF x=5 THEN PRINT AT 21,Ø;
INK 6;"GOLD ": BEEP .5,1Ø: PRINT
 AT 21,Ø;"    ": LET f=f+INT (RN
D*2Ø)
 47Ø LET m=m+1
 48Ø GO TO 22Ø
 51Ø IF SCREEN$ (a,b+1)<>" " THE
N PRINT AT 21,Ø;"OUCH": BEEP .5,
-1Ø: PRINT AT 21,Ø;"    ": LET s
t=st-1: GO TO 35Ø
 52Ø PRINT AT a,b;" "
 53Ø LET b=b+1
 54Ø PRINT AT a,b;"A"
 55Ø LET x=INT (RND*1Ø)
 56Ø IF x=5 THEN PRINT AT 21,Ø;
INK 6;"GOLD": BEEP .5,-1Ø: PRINT
 AT 21,Ø;"    ": LET f=f+INT (RN
D*2Ø)
 57Ø LET m=m+1
 58Ø GO TO 22Ø
 61Ø IF SCREEN$ (a+1,b)<>" " THE
N PRINT AT 21,Ø;"OUCH": BEEP .5,
-1Ø: PRINT AT 21,Ø;"    ": LET s
t=st-1: GO TO 35Ø
 62Ø PRINT AT a,b;" "
 63Ø LET a=a+1
 64Ø PRINT AT a,b;"A"
 65Ø LET x=INT (RND*1Ø)
 66Ø IF x=5 THEN PRINT AT 21,Ø;"
GOLD": BEEP .5,-1Ø: PRINT AT 21,
Ø;"    ": LET f=f+INT (RND*2Ø)
 67Ø LET m=m+1
 69Ø GO TO 22Ø
 71Ø IF SCREEN$ (a-1,b)<>" " THE
N PRINT AT 21,Ø;"OUCH": BEEP .5,
```

```
-10: PRINT AT 21,0;"      ": LET s
t=st-1: GO TO 350
 720 PRINT AT a,b;" "
 730 LET a=a-1
 740 PRINT AT a,b;"A"
 750 LET x=INT (RND*10)
 760 IF x=5 THEN PRINT AT 21,0;"
GOLD": BEEP .5,-10: PRINT AT 21,
0;"    ": LET f=f+INT (RND*20)
 770 LET m=m+1
 780 GO TO 220
1200 INPUT "DO YOU REALY WANT TO
 QUIT?";B$
1210 IF B$="Y" OR B$="y" THEN GO
 TO 1230
1220 PRINT AT 21,0;"THEN DON'T S
AY THEY DO": PAUSE 200: PRINT AT
 21,0;"                       ": G
O TO 350
1230 POKE 23692,10: PRINT "YOU F
OUND ";f;"GOLD PIECES"
1240 PRINT "AND YOU LASTED ";m;"
 MOVES"
1250 PAUSE 0
1260 RUN
1270 STOP
```

Index Printer

For those who possess a printer and a 16K Spectrum, this is a program to produce index cards for the programs you have recorded on tape. Loading instructions and the program name are shown in double-sized characters. Also printed are the cassette type and length and space is left for up to 14 lines of other information. The completed card can be folded to give a professional finish to your cassette case. The underlined letters in line 1200 should be entered in graphics mode.

```
                               1ØØØ DAT
A "a",12Ø,132,124,3,3,124,132,2Ø
1Ø1Ø DATA "b",3,12,48,192,192,48
,12,3
1Ø2Ø DATA "c",192,48,12,3,3,12,4
8,192
1Ø3Ø DATA "d",3Ø,33,62,192,192,6
2,33,3Ø
1Ø4Ø DATA "f",255,Ø,Ø,Ø,Ø,Ø,Ø,Ø
1Ø5Ø FOR i=1 TO 5
1Ø6Ø READ a$
1Ø7Ø FOR j=Ø TO 7
1Ø8Ø READ b
1Ø9Ø POKE USR a$+j,b
11ØØ NEXT j: NEXT i
12ØØ LET a$="AB           Cut Her
e          CD"
121Ø DIM b$(18,32)
5Ø1Ø CLS : PRINT AT 1Ø,6;"ENTER
THE TAPE TITLE"
5Ø2Ø INPUT "Maximum 12 character
s";t$: IF t$="" THEN GO TO 5Ø5Ø
5Ø3Ø IF LEN t$>16 THEN GO TO 5Ø1
Ø
5Ø4Ø CLS : PRINT AT 1Ø,3;"ENTER
LOADING INSTRUCTIONS"
5Ø5Ø INPUT "Maximum 12 character
s";l$: IF l$="" THEN GO TO 5Ø5Ø
5Ø6Ø IF LEN l$>2 THEN LET l$=l$(
1 TO 12)
5Ø7Ø CLS : PRINT AT 1Ø,5;"ENTER
TYPE OF CASSETTE"
5Ø8Ø INPUT "Maximum 2Ø character
s ";u$: IF u$="" THEN GO TO 5Ø8Ø
5Ø9Ø IF LEN u$>2Ø THEN GO TO 5Ø7
Ø
51ØØ CLS : PRINT AT 1Ø,5;"ENTER
LENGTH OF CASSETTE"
511Ø INPUT v
512Ø FOR i=4 TO 17
513Ø CLS : PRINT AT 1Ø,6;"ENTER
TEXTFOR LINE ";i
514Ø INPUT "
            ";i$
515Ø IF LEN i$<=32 THEN LET b$(i
)(16-LEN i$/2 TO )=i$: GO TO 521
Ø
516Ø LET c=Ø
5165 IF c=32 THEN GO TO 5195
517Ø LET j$=i$(33-c)
5175 IF i$(33-c)=" " THEN GO TO
52ØØ
518Ø LET c=c+1
5185 GO TO 5165
5195 LET c=Ø
52ØØ LET b$(i)=i$( TO 32-c)
52Ø5 LET b$(i+1)(16-LEN i$(33-c
TO )/2 TO )=i$(33-c TO )
52Ø7 LET i=i+1
521Ø NEXT i
6Ø1Ø LPRINT '''a$
6Ø2Ø FOR i=Ø TO 31
6Ø3Ø LPRINT TAB i;"_";
6Ø4Ø NEXT i
6Ø5Ø CLS
6Ø6Ø LET x=128: LET y=157: LET y
$=t$
6Ø7Ø GO SUB 9ØØØ
6Ø9Ø PRINT AT i,Ø;b$(i)
61ØØ NEXT i
611Ø LET x=144: LET y=9: LET y$=
CHR$ 4+l$+CHR$ 34
612Ø GO SUB 9ØØØ
613Ø PRINT AT 2,14-LEN y$;"LOAD"
614Ø COPY
615Ø CLS : FOR i=Ø TO 31
616Ø PRINT AT Ø,i;"F"
617Ø NEXT i
618Ø LET x=128: LET y=157: LET y
$=t$
619Ø GO SUB 9ØØØ
62ØØ FOR i=Ø TO 31
621Ø PRINT OVER 1;AT 2,i;"_"
622Ø NEXT i: OVER Ø
623Ø PRINT ''TAB 3;u$+" Cassette
"
624Ø PRINT ''TAB 3;"C";v;"(2*";v
/2;"mins)"
625Ø FOR i=Ø TO 31
626Ø PRINT AT 1Ø,i;"_"
627Ø NEXT i
628Ø PRINT a$
629Ø COPY
63ØØ CLS : PRINT AT 1Ø,6;"INDEX
CARD FINISHED"''TAB 2;"PRESS PAP
ER FEED AND TEAR OFF"
8999 STOP
9ØØØ PRINT AT 21,Ø;y$
9Ø1Ø FOR n=7 TO Ø STEP -1
9Ø2Ø FOR b=Ø TO 8*LEN y$-1
```

```
9030 IF POINT (b,a)=0 THEN GO TO
 9090
9040 FOR c=0 TO 1
9050 FOR d=0 TO 1
9060 PLOT x-(8*LEN y$)+2*b+c,y+2
*a-d
9070 NEXT d
9080 NEXT c
9090 NEXT b
9100 NEXT a
9110 PRINT AT 21,0;"
                              "
9120 RETURN
```

Moon Shot

Looking into the sky you see a remarkably familiar figure flying across the Moon on a bicycle. You raise your gun and, by pressing 'F', you fire. If you are successful the cuddly alien will fall to the ground and you catch it in your basket, using the keys 5 and 8. Can you catch all the aliens and have the moon men declared extinct? Can you eat your dinner after playing this game, devised for the 16K Spectrum.

The bicycle on lines 60, 130 and 3630 is made up of graphic 'A' and 'B'. The spot on lines 50, 120 and 3630 is graphic 'C' followed by graphics 'D'.

```
  10 BORDER 0: PAPER 0: INK 7
  15 GO SUB 9000
  20 CLS
  25 GO SUB 1000
  26 GO TO 8000
  30 LET z=12
  40 FOR b=8 TO 15
  50 PRINT AT z,b; INVERSE 1;;"C
D"
  60 PRINT AT z+1,b; INVERSE 1;;
"AB"
  70 FOR x=1 TO 50
  75 NEXT x
  80 PRINT AT z,b; INVERSE 1;"
"
  90 PRINT AT z+1,b; INVERSE 1;;
"  "
  95 LET z=z-1
  96 IF INKEY$="f" THEN GO SUB 2
000
 100 NEXT b
 105 IF INKEY$="f" THEN GO SUB 2
000
 110 FOR b=15 TO 22
 120 PRINT AT z,b; INVERSE 1;;"C
D"
 130 PRINT AT z+1,b; INVERSE 1;;
"AB"
 140 FOR x=1 TO 50
 145 NEXT x
 150 PRINT AT z,b; INVERSE 1;"
"
 160 PRINT AT z+1,b; INVERSE 1;;
"  "
 170 LET z=z+1
 180 IF INKEY$="f" THEN GO SUB 2
000
 200 NEXT b
 210 RETURN
1000 FOR a=1 TO 80
1010 INK 7: CIRCLE 128,88,a
1020 NEXT a
1030 RETURN
2000 LET r=1
2010 LET d=30
2030 FOR s=18 TO 4 STEP -1
2035 INVERSE 1
2040 PRINT AT s,r;"/";AT s,d;"\"
2045 PAUSE 2
2049 INVERSE 0
2050 PRINT AT s,r;"(isp)";AT s,d
;"(isp)"
2051 IF s>13 THEN PRINT AT s,r;"
 ";AT s,d;" "
2055 LET r=r+1
2060 LET d=d-1
2070 BEEP .1,s
2080 NEXT s
2090 IF b=15 AND z=4 THEN GO TO
3500
3000 RETURN
3500 RESTORE 9900
3510 LET score=score+1
3520 FOR k=1 TO 11
3530 READ beep
3540 BEEP .2,beep+16
3550 NEXT k
3560 LET catch=16
3590 NEXT k
3600 LET fall=INT (RND*3)+13
3610 FOR g=4 TO 20
3620 LET catch=catch-(INKEY$="5"
)+(INKEY$="8")
3630 PRINT AT g,fall; INVERSE 1;
"CD";AT g+1,fall;"AB";AT 21,catc
h; INVERSE 0;"(g6:ig6)"
3640 PRINT AT g,fall;"(2*isp)";A
T g+1,fall;"(2*isp)";AT 21,catch
;"  "
3650 NEXT g
3660 IF catch=fall THEN LET scor
e=score+10
3670 PRINT AT 21,0;"
                               "
3700 RETURN
8000 LET score=0: LET et=0
8020 FOR e=1 TO 25
8030 PRINT AT 0,0;"Score=";score
;" No. of Moon Men=";et
8040 GO SUB 30
8050 LET et=et+1
8070 IF score>=90 THEN PRINT AT
21,0; FLASH 1;"Moon Men extinct!
": STOP
8100 NEXT e
8200 PRINT AT 21,0; FLASH 1;"You
 failed. The Moon Men Live!": ST
OP
9000 FOR v=1 TO 4: READ a$: FOR
w=0 TO 7: READ c: POKE USR a$+w,
```

```
c: NEXT w: NEXT v: RETURN
9100 DATA "A",3,3,7,8,20,35,20,8
9110 DATA "b",0,0,192,64,160,16,
160,64
9115 DATA "C",0,0,0,0,0,0,0,1
9120 DATA "D",0,0,0,0,112,112,11
2,128
9900 DATA 3,3,3,3,6,4,4,3,3,1,3
```

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